

Fig. 21

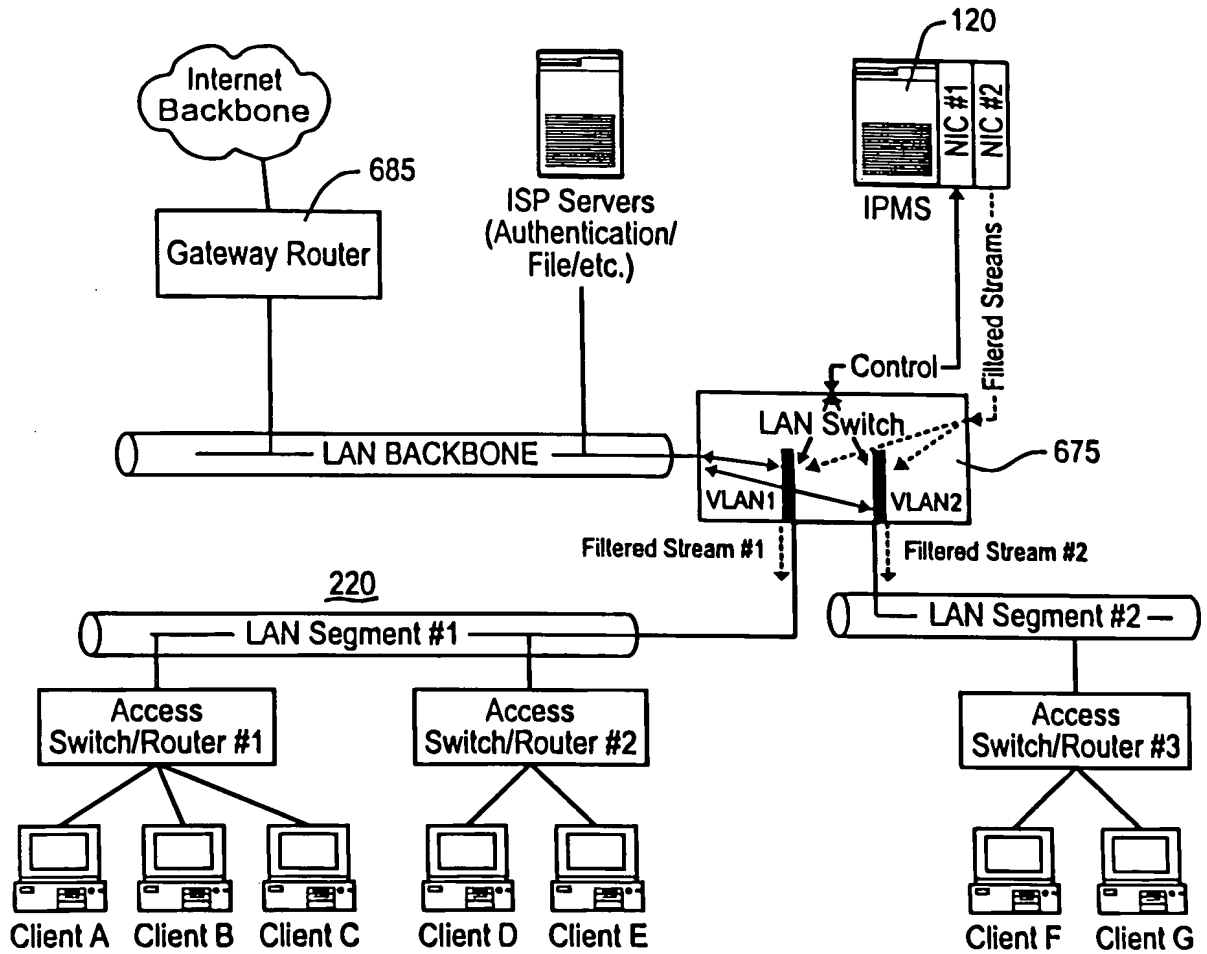


Fig. 22

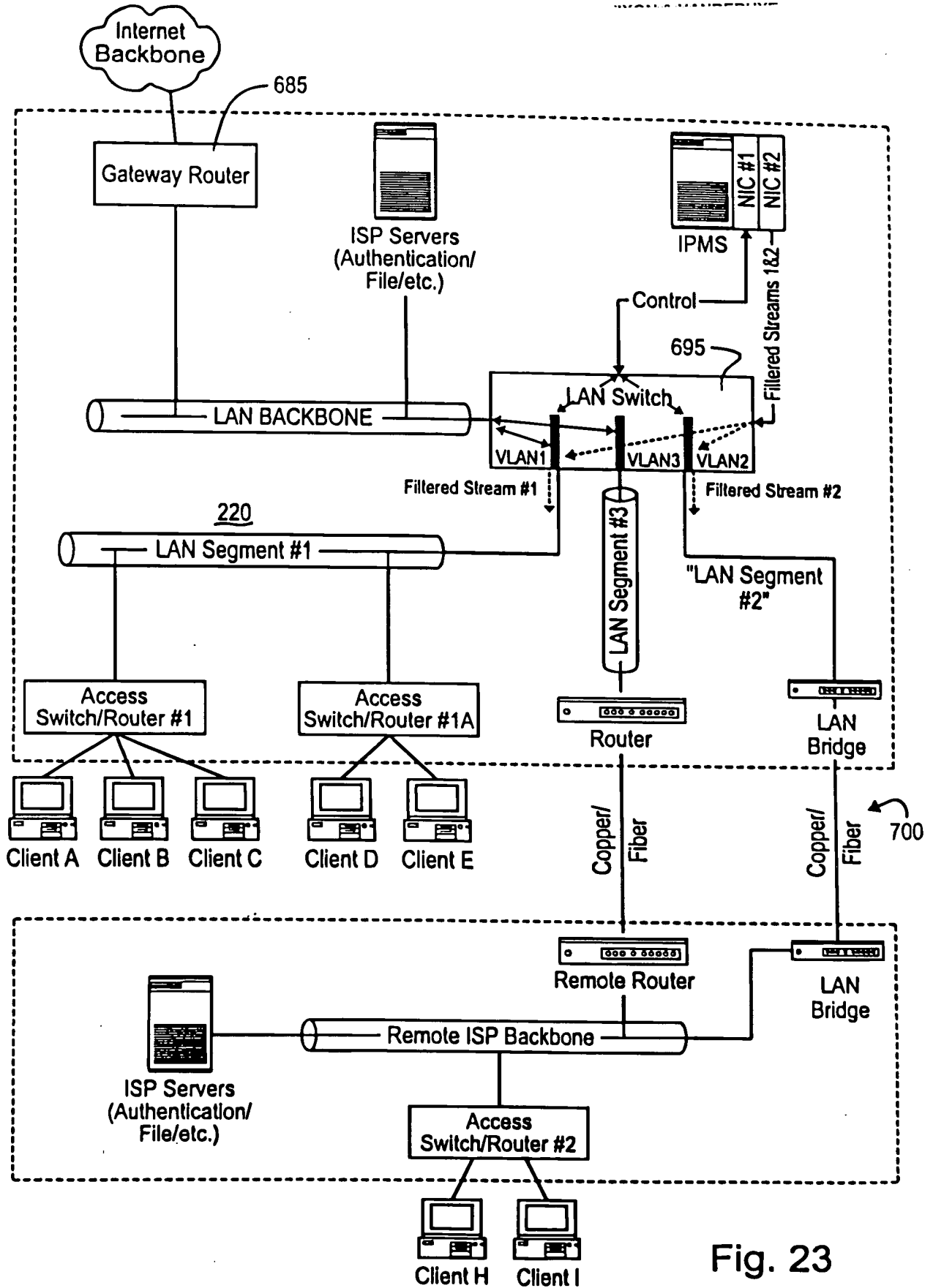


Fig. 23

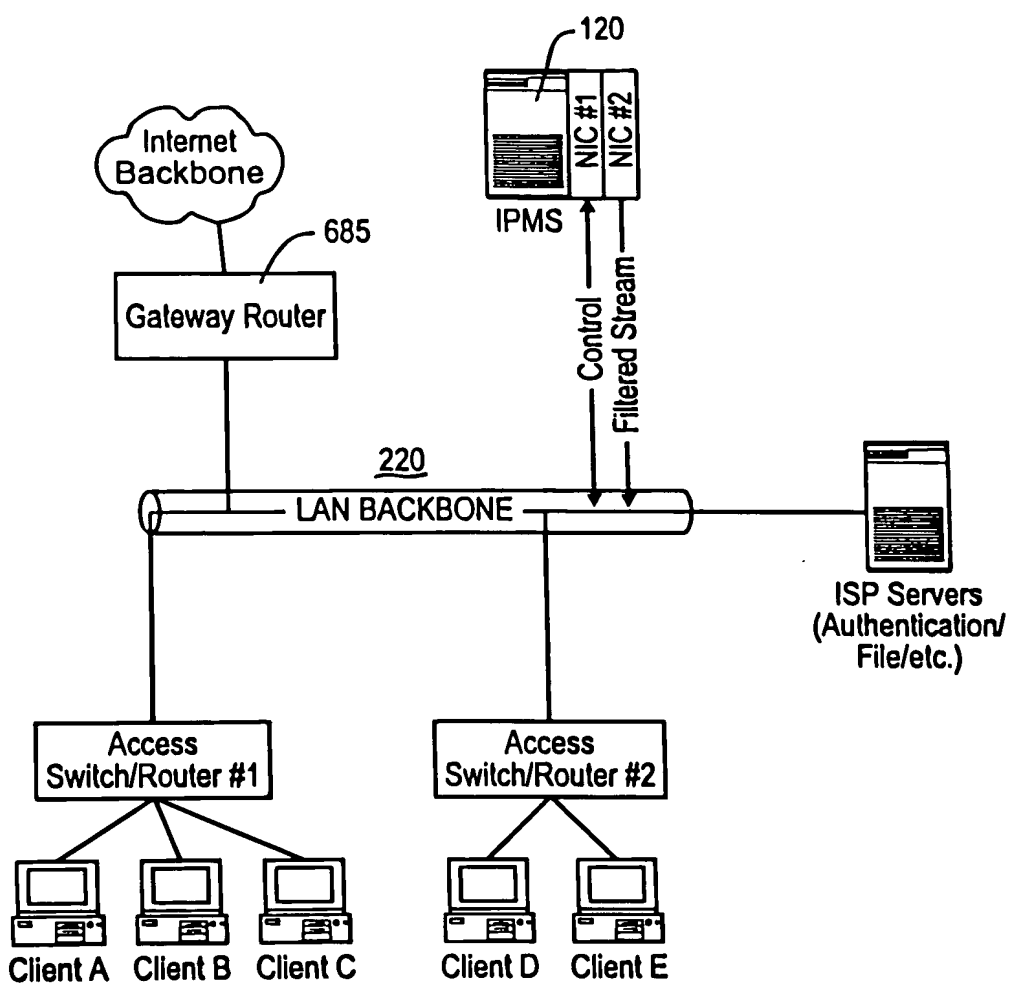


Fig. 24

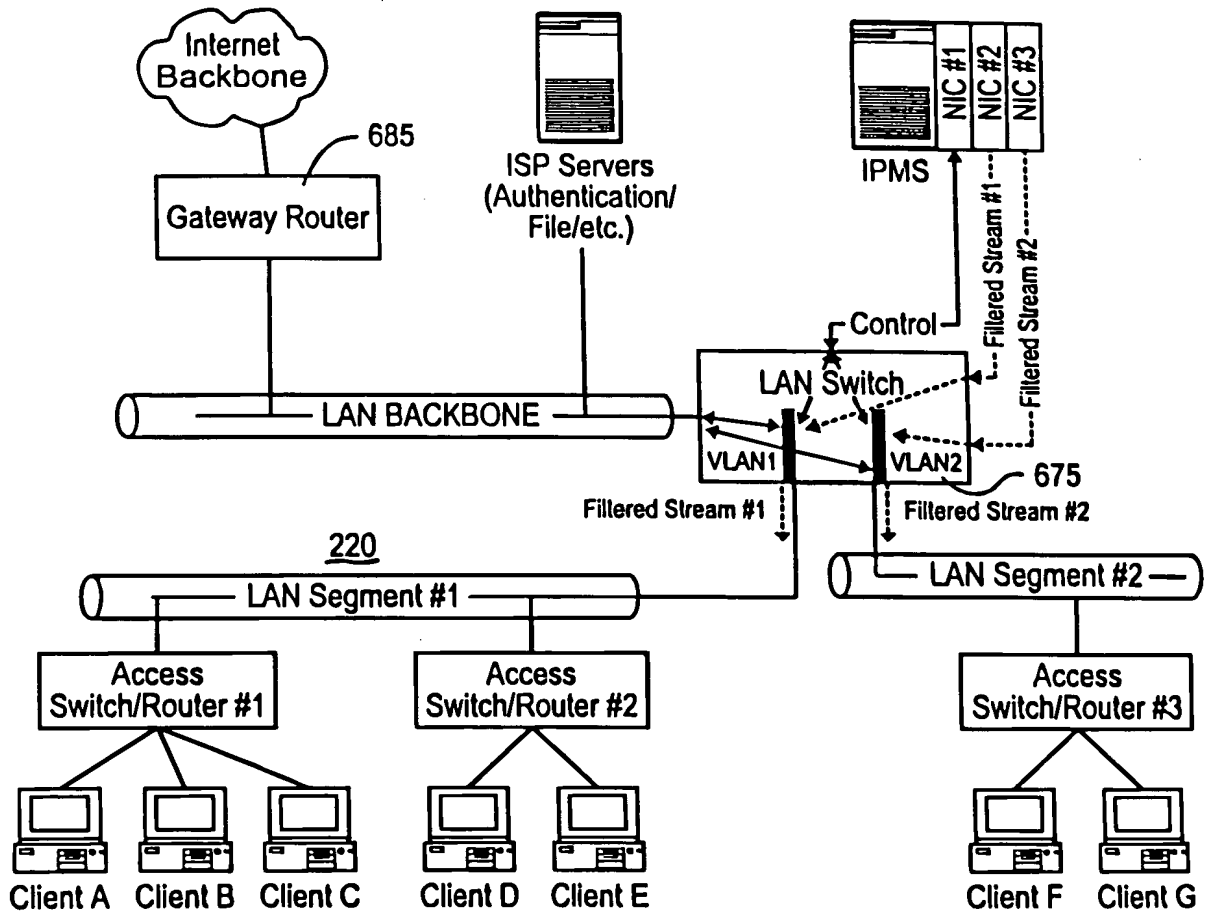


Fig. 25

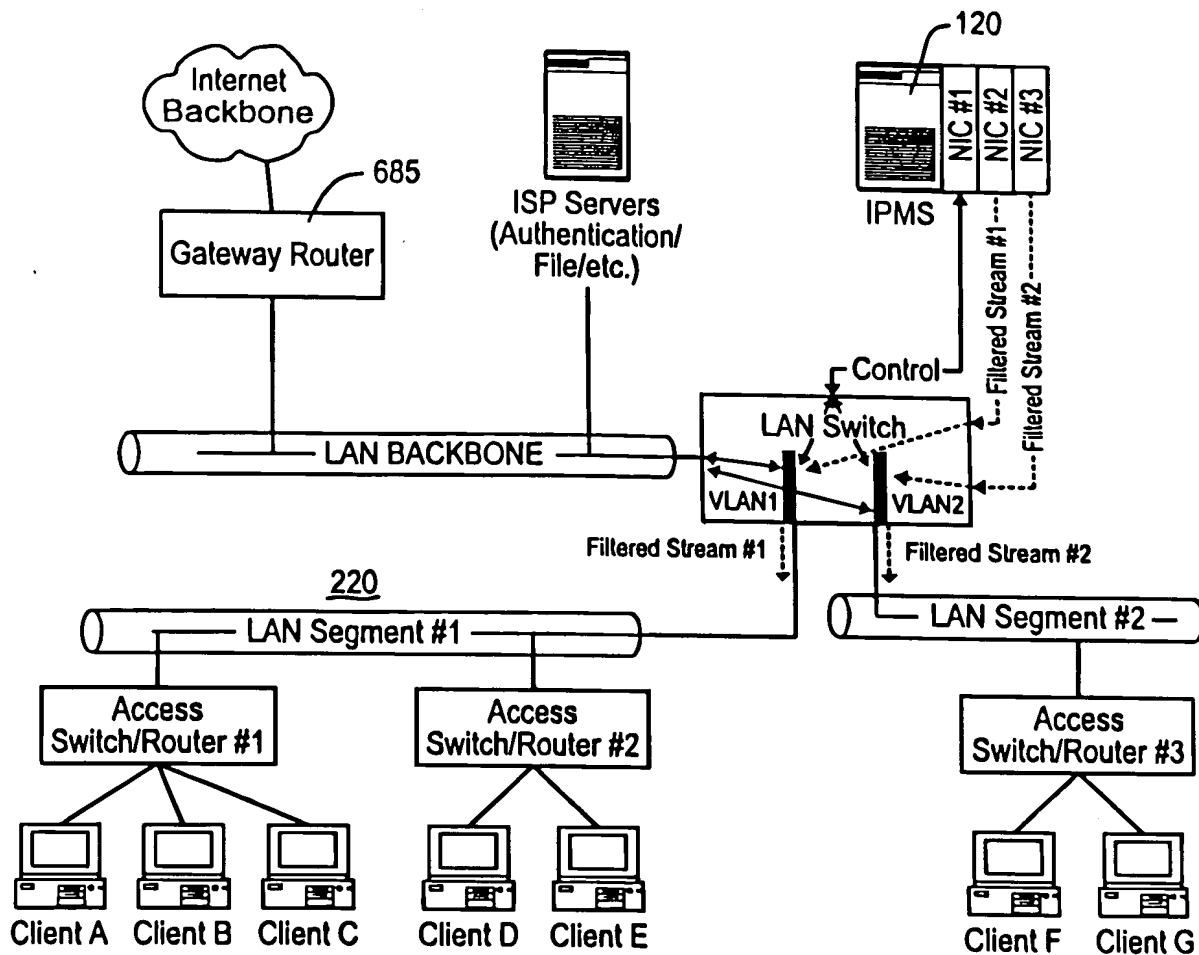


Fig. 26

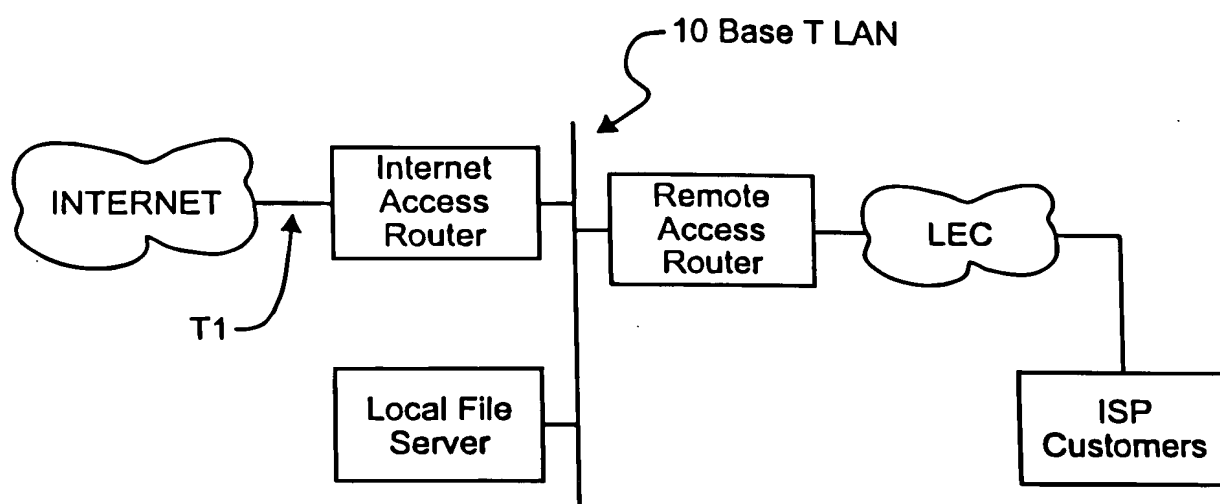


Fig. 27

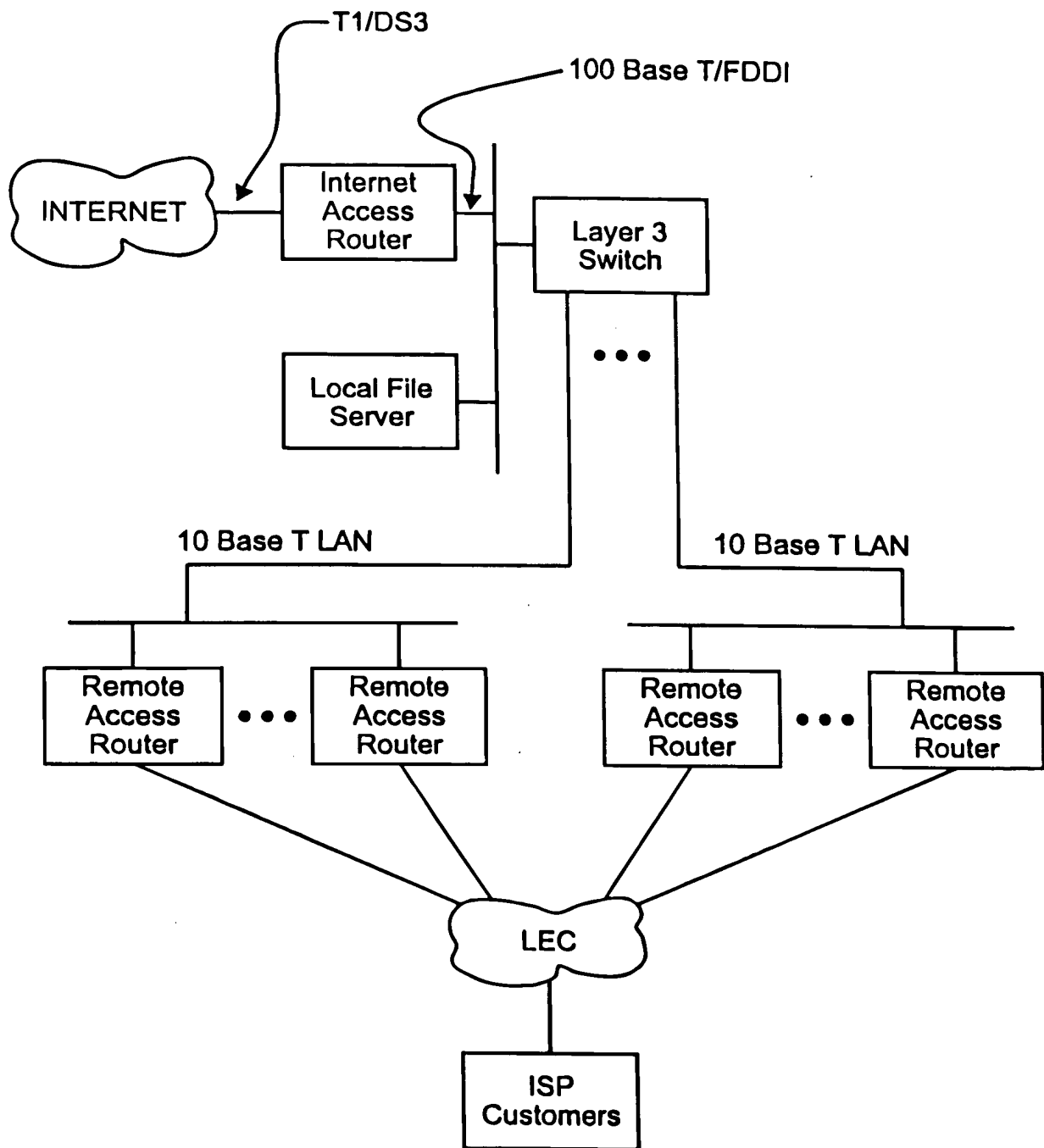


Fig. 28

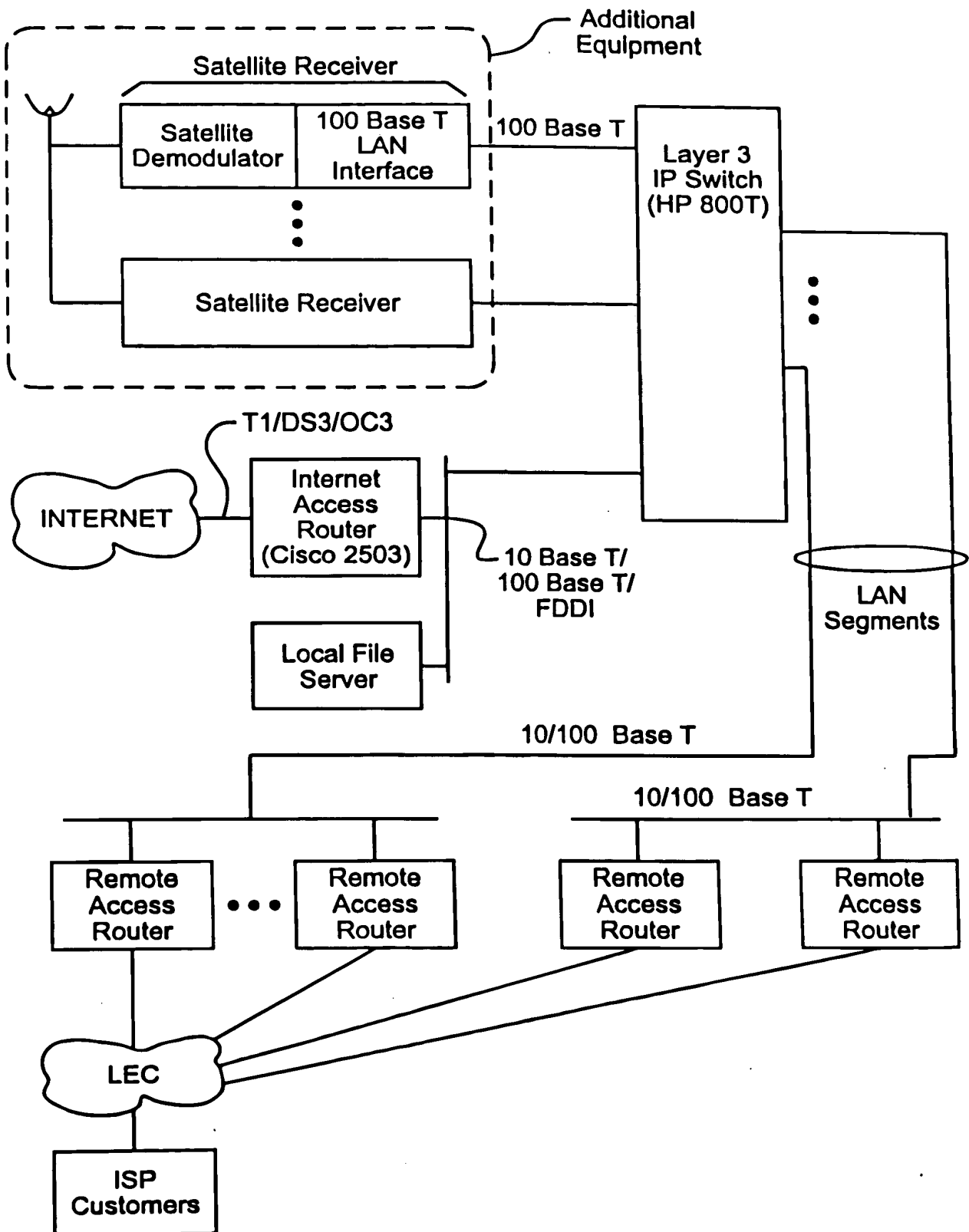


Fig. 29

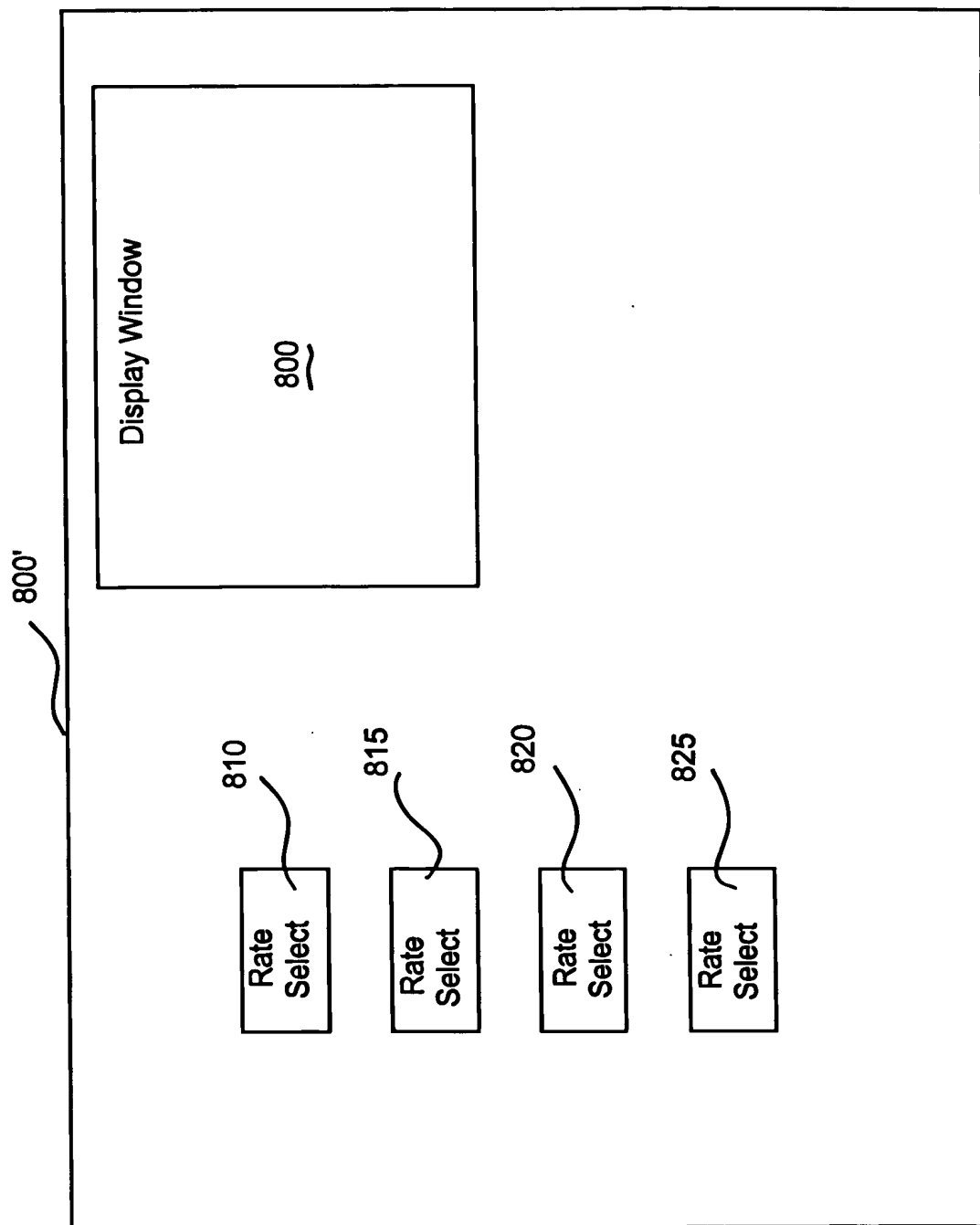


Fig. 30

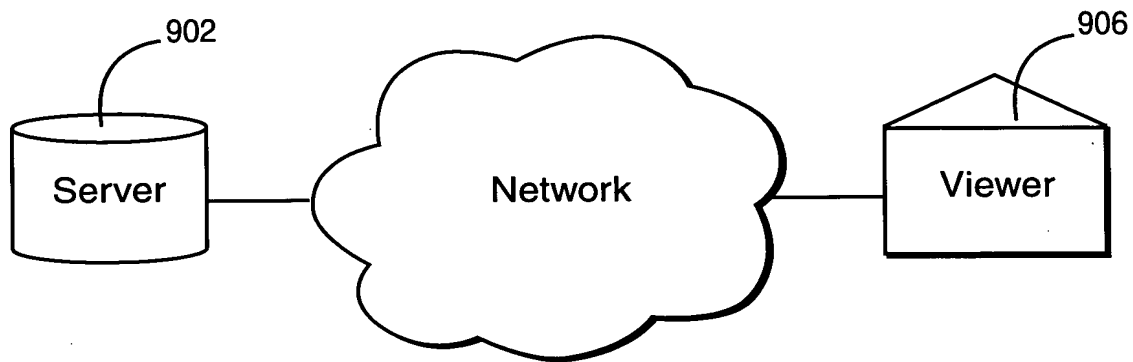


Fig. 31

Example IP Data Content Distribution

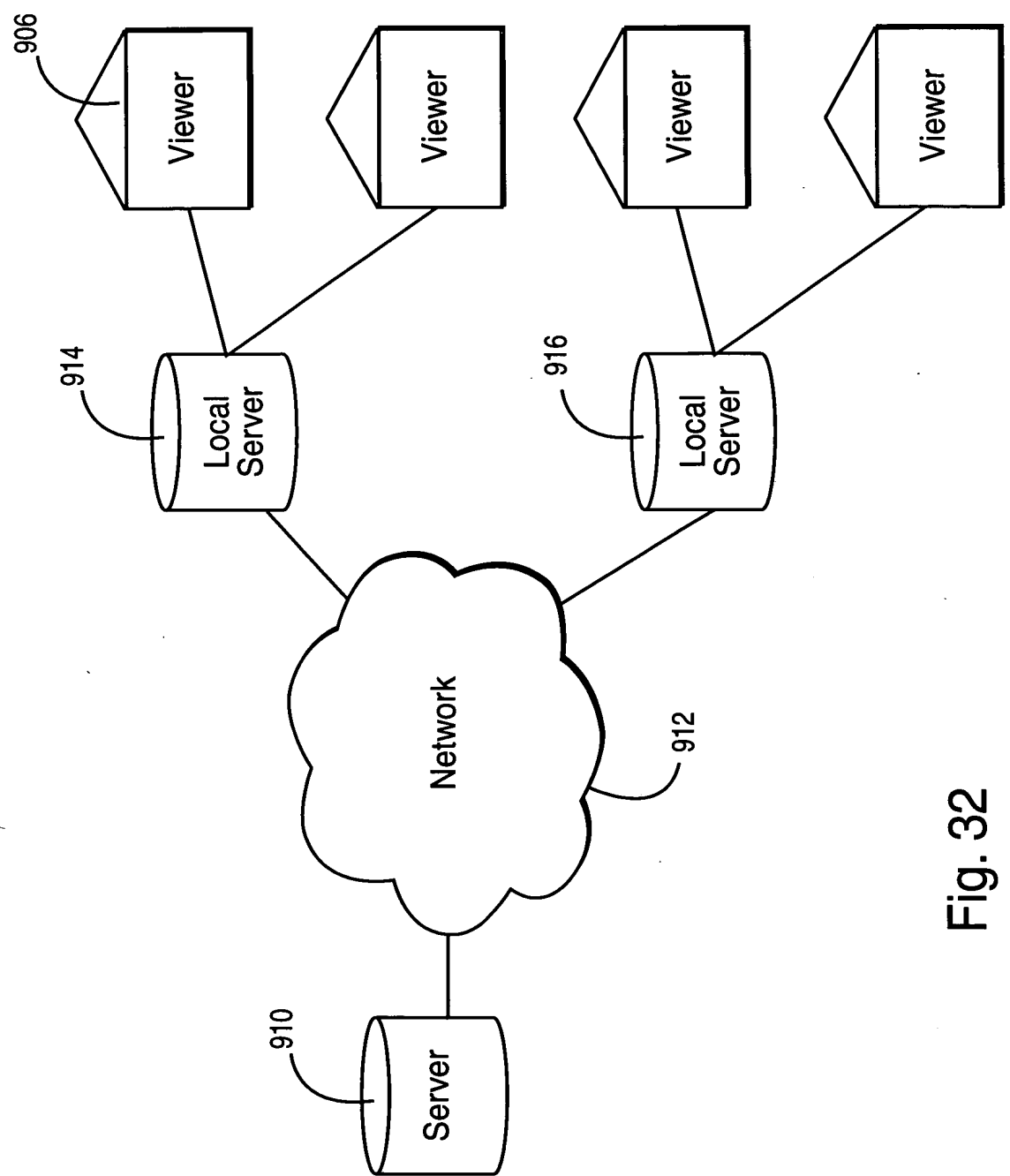


Fig. 32
Example Local Video/Audio Servers

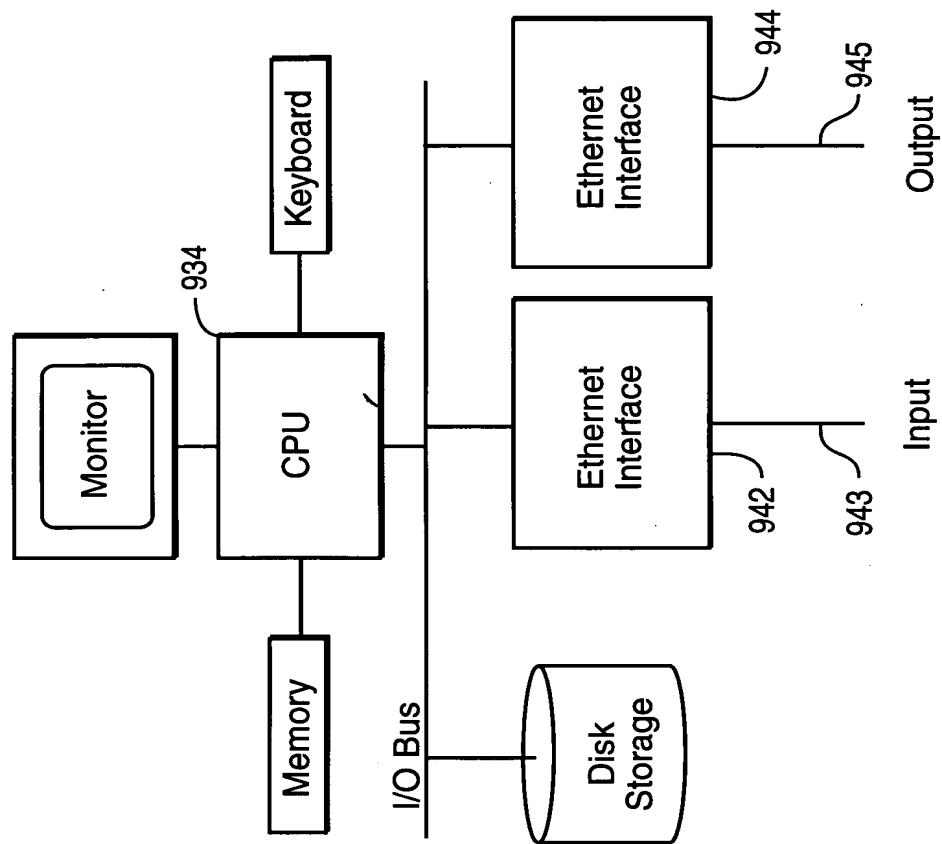


Fig. 33

Example Local Server Hardware Configuration

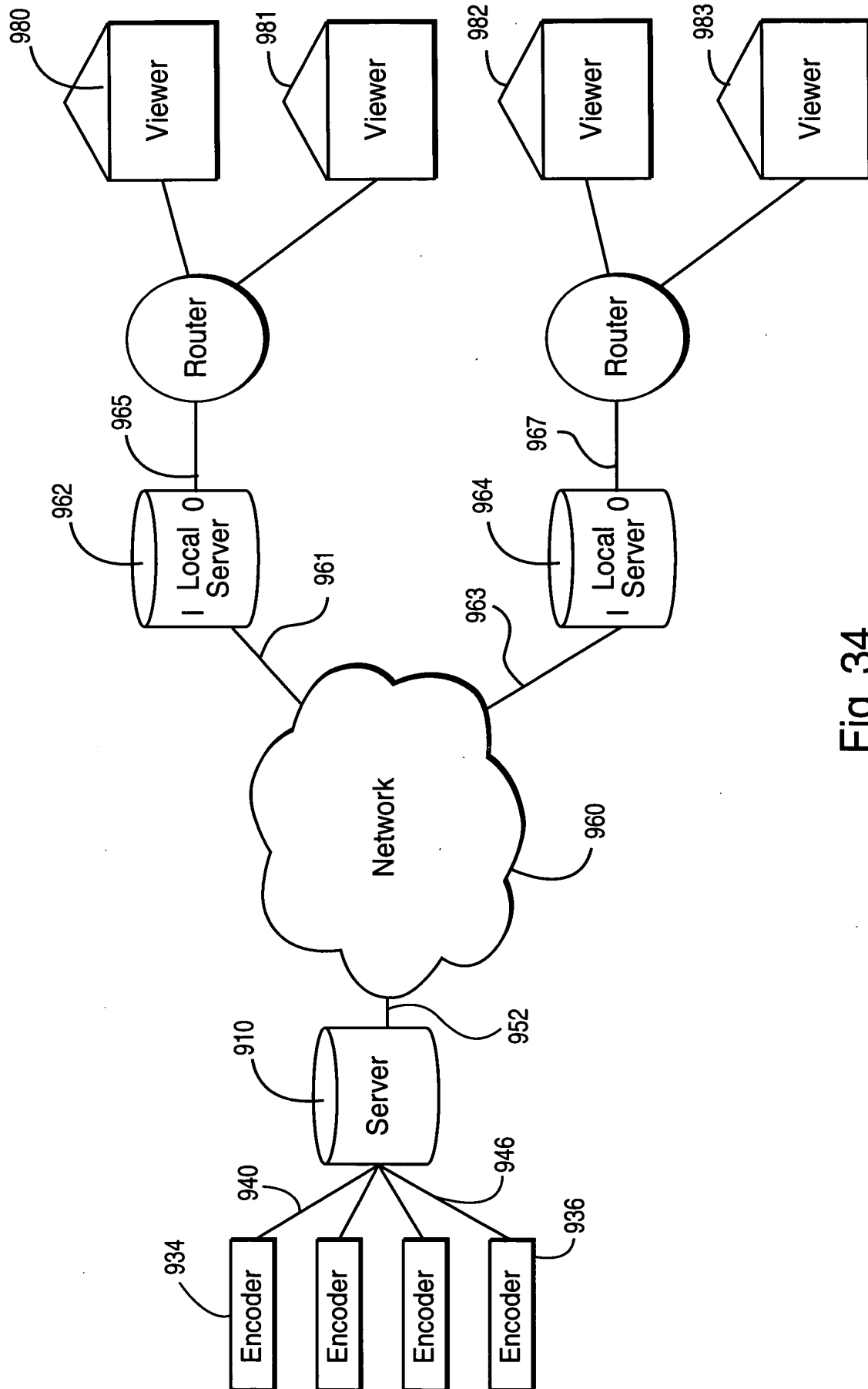


Fig. 34

Example Local Multicast Insertion

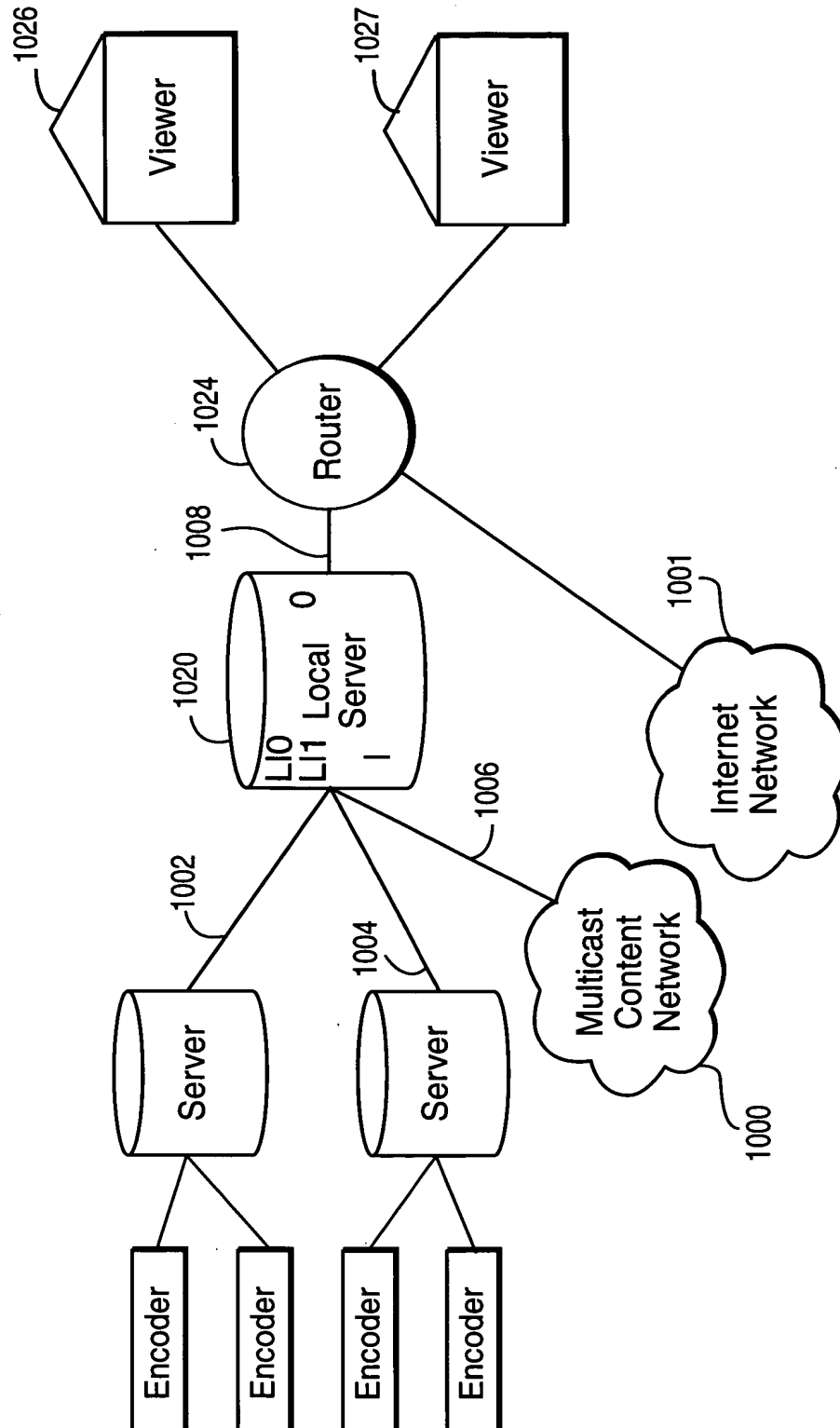
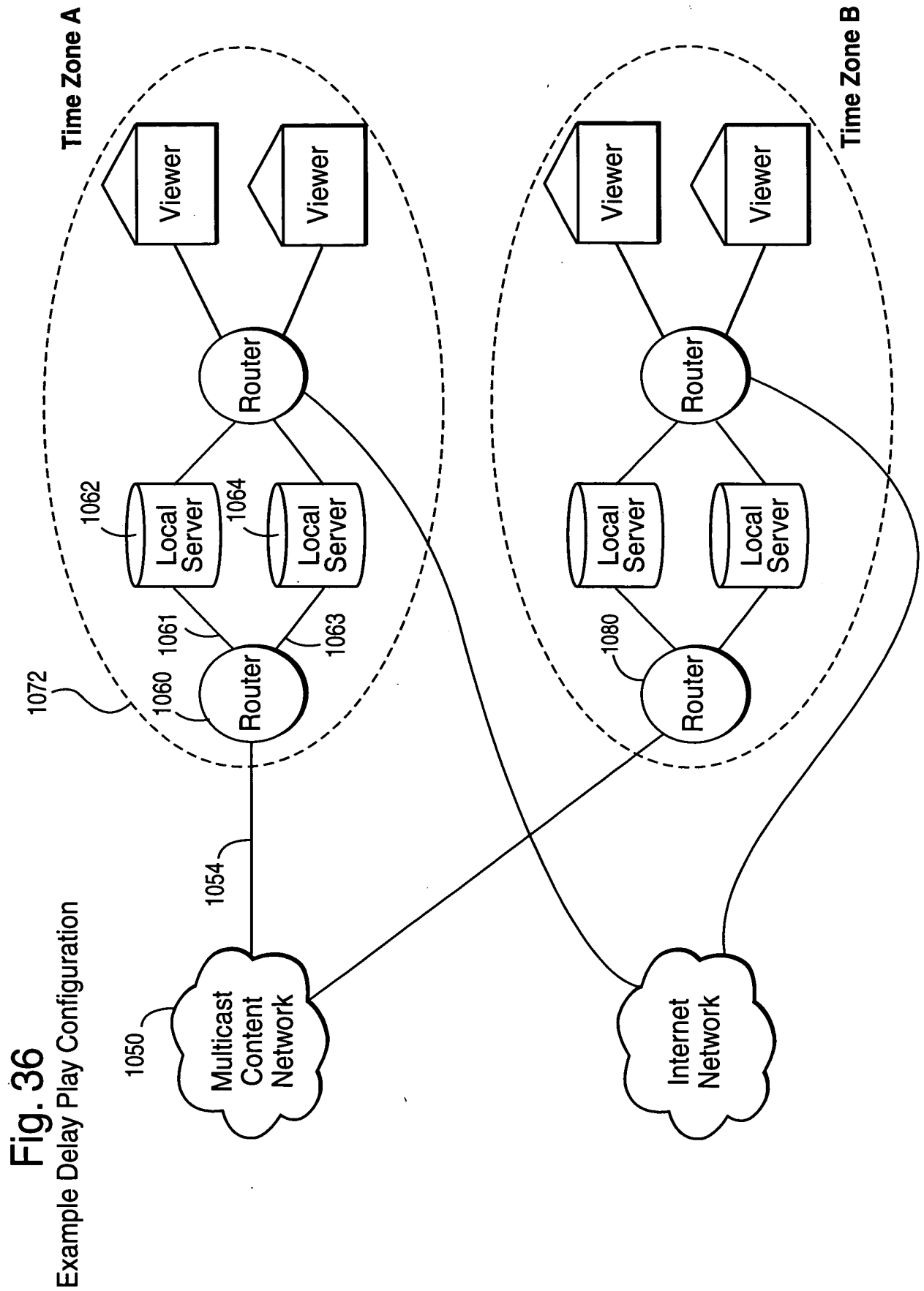


Fig. 35
 Example Multicast Internet Configuration



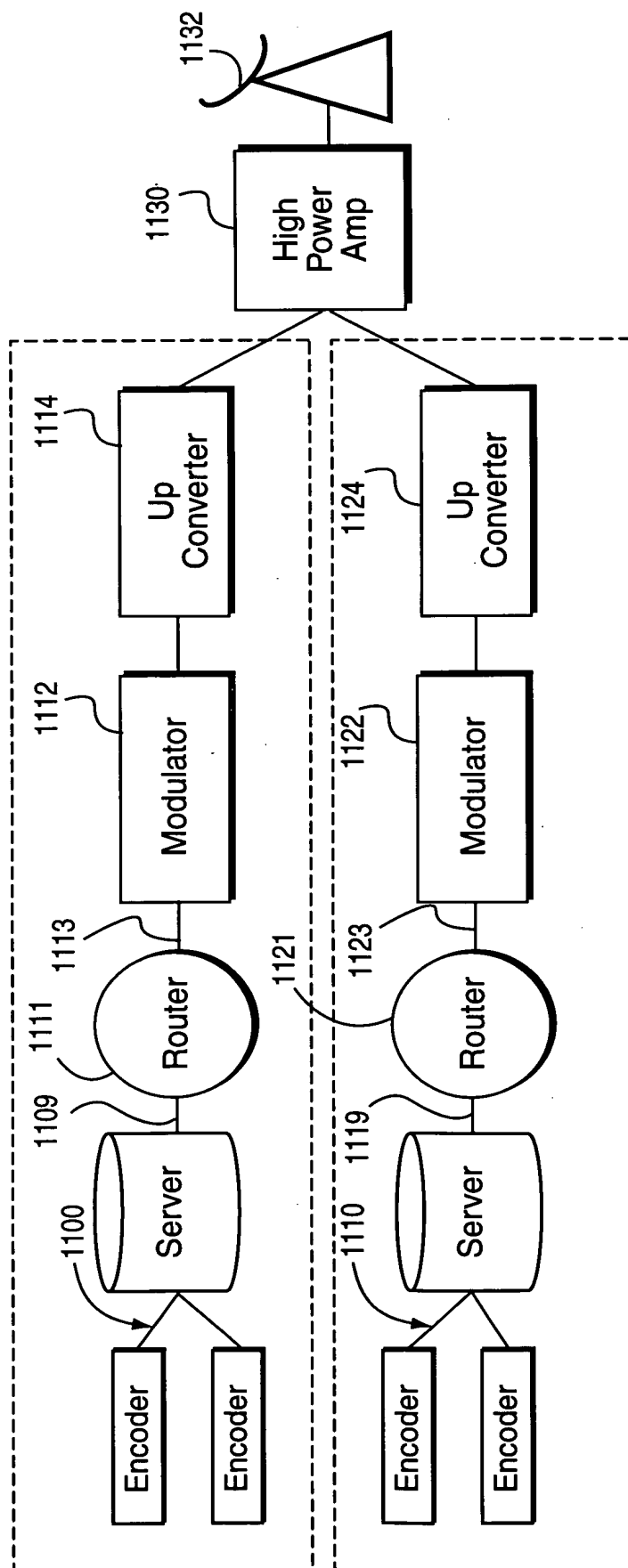


Fig. 37

Example Satellite Multicast Uplink Equipment

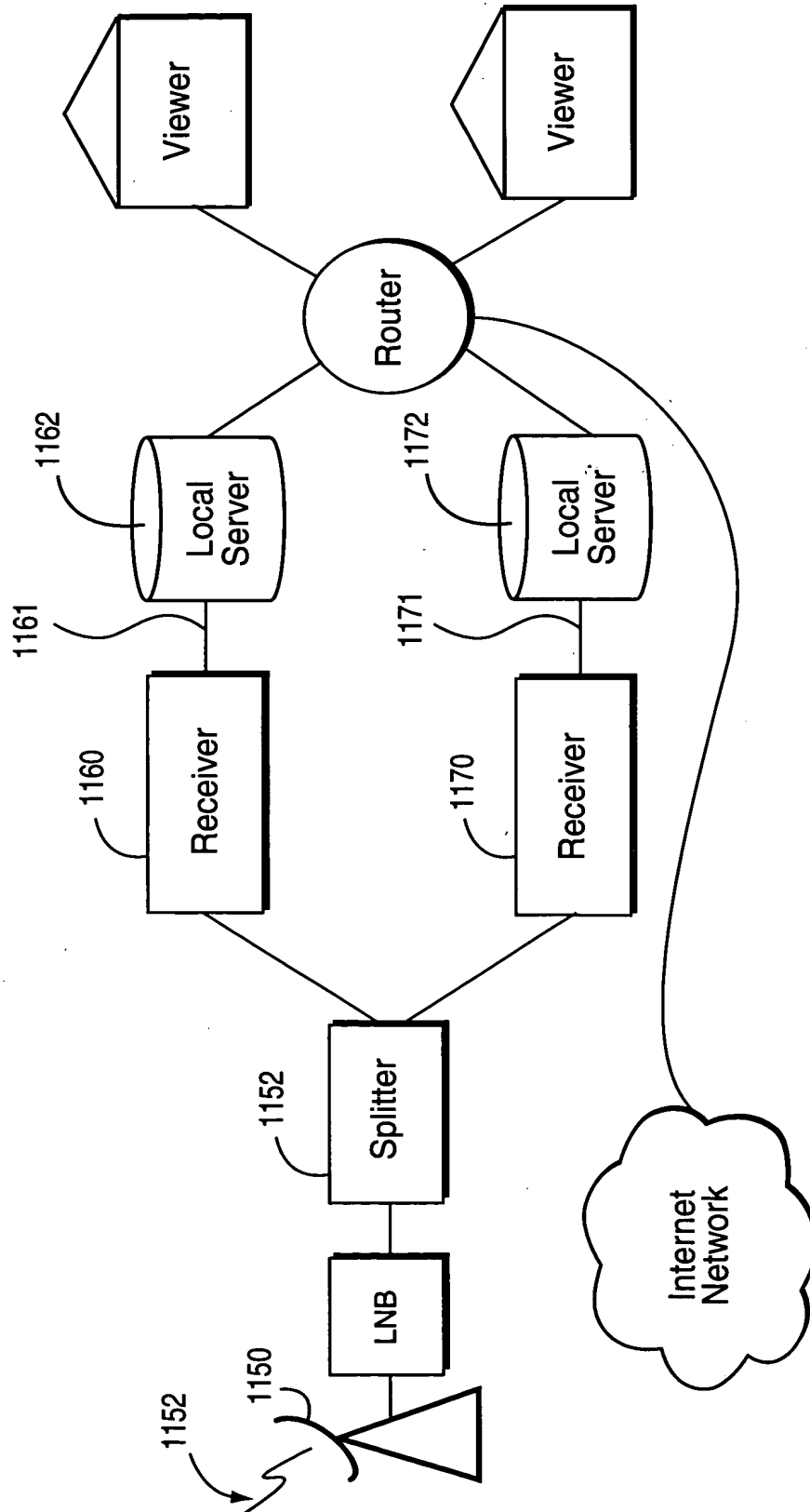


Fig. 38

Example Satellite Multicast Downlink Equipment

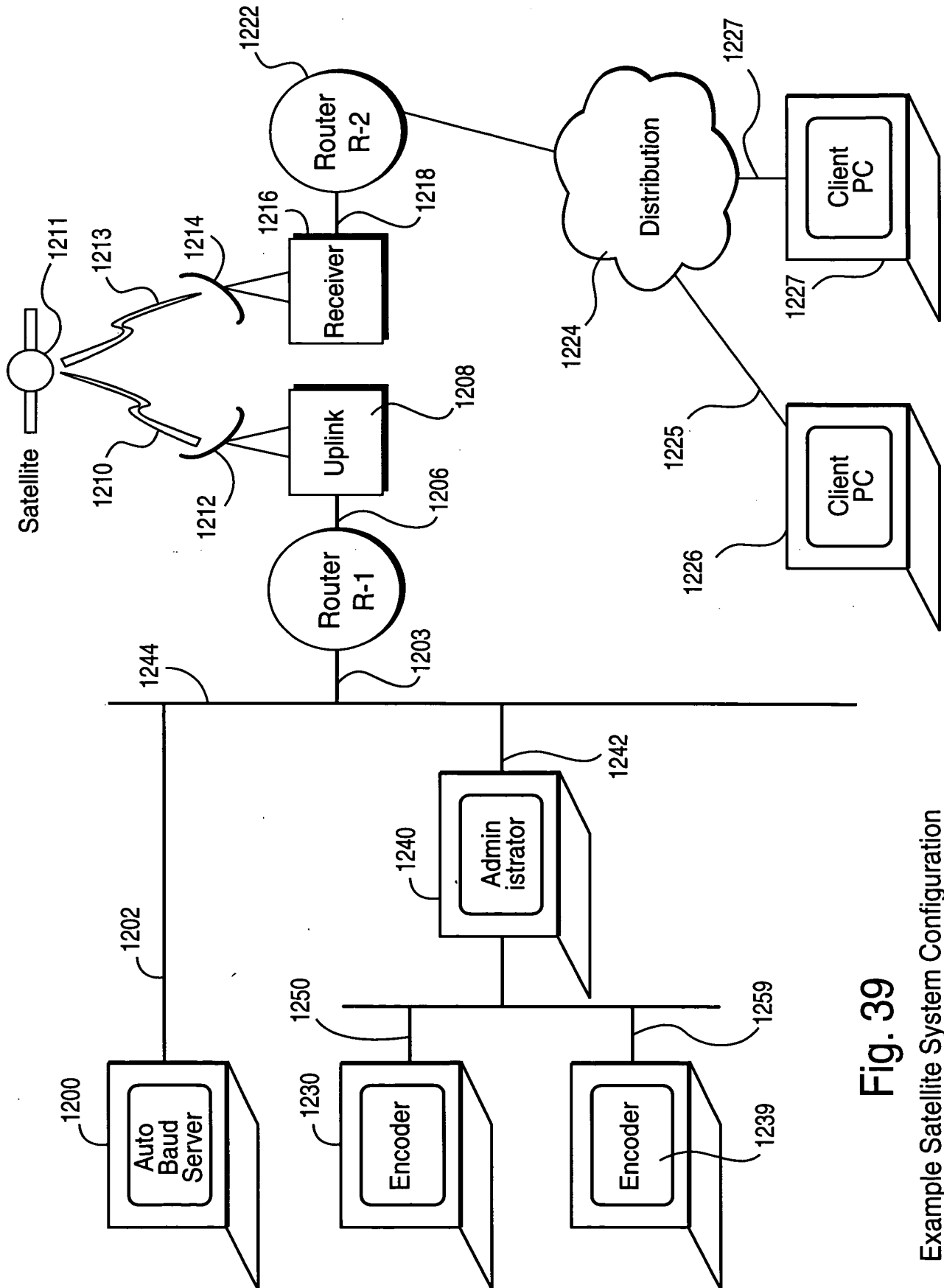


Fig. 39

Example Satellite System Configuration

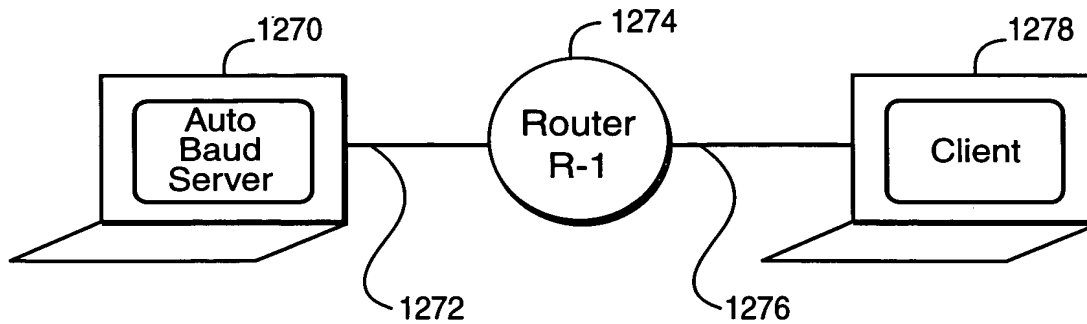


Fig. 40
Simplified System Configuration

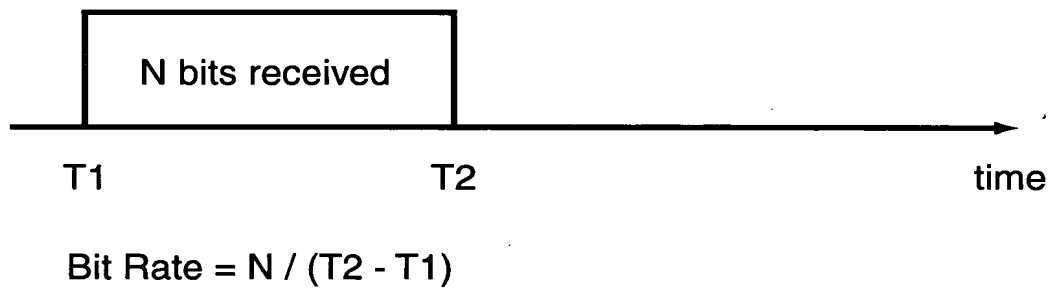
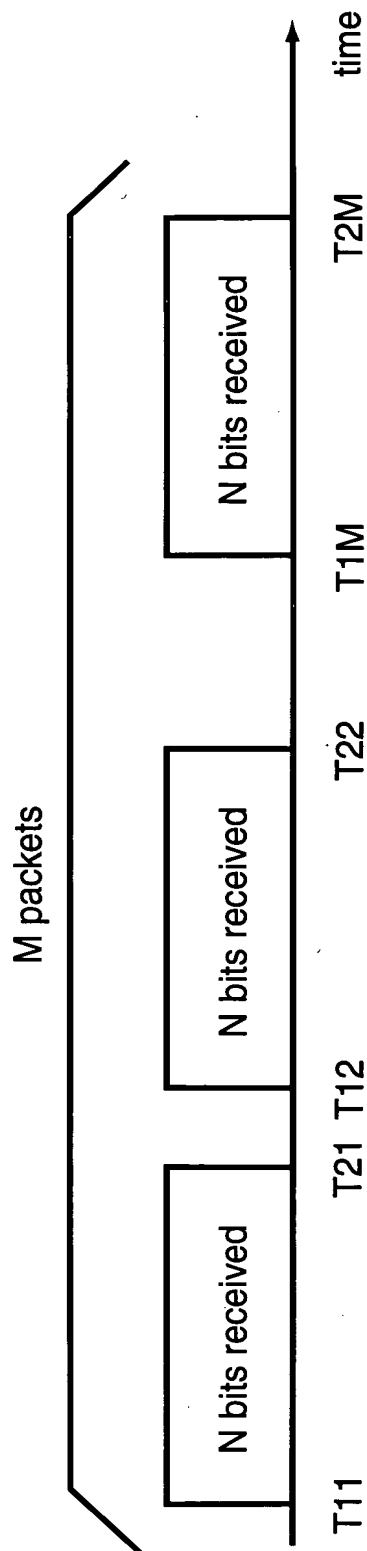


Fig. 41
Single Packet Timing Diagram



$$\text{Bit Rate} = (M-1) \cdot N / (T2M - T21)$$

Fig. 42
 Multipacket Timing Diagram

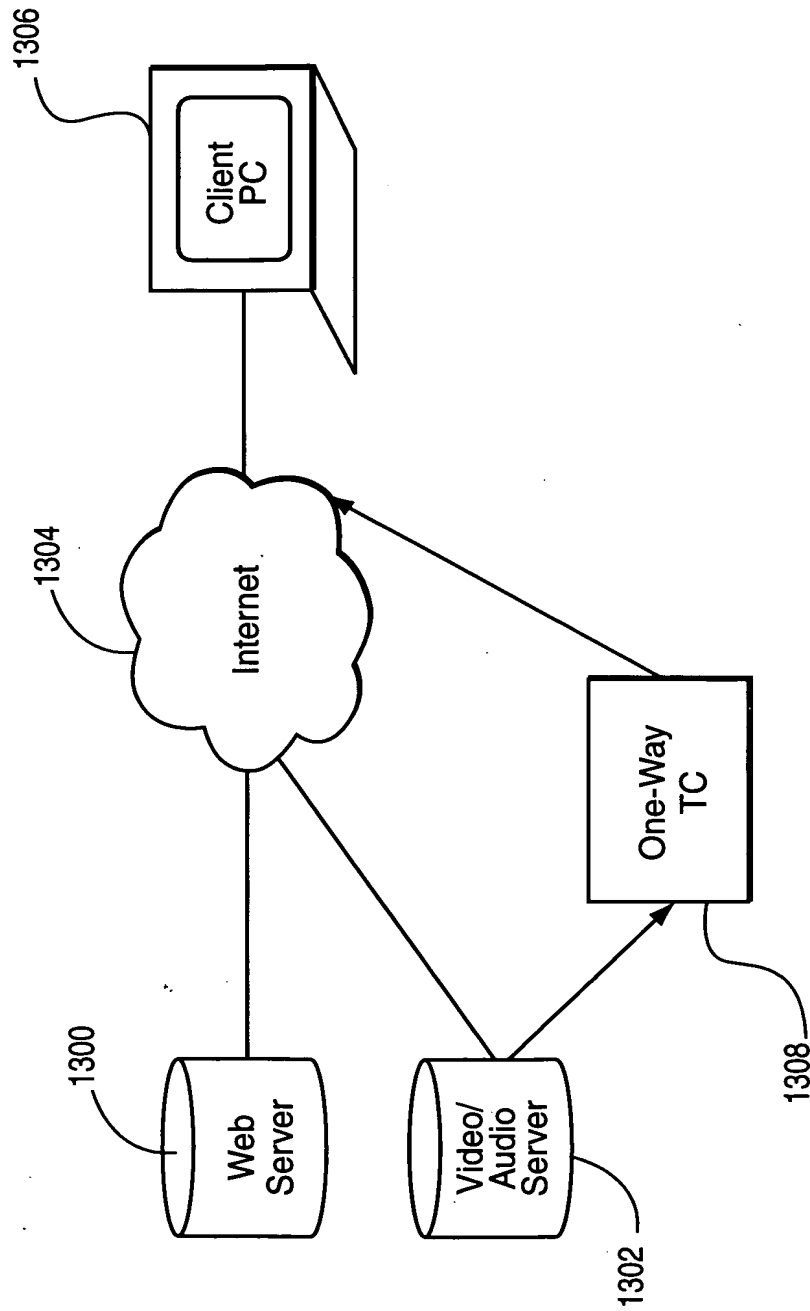


Fig. 43
Local Replay System

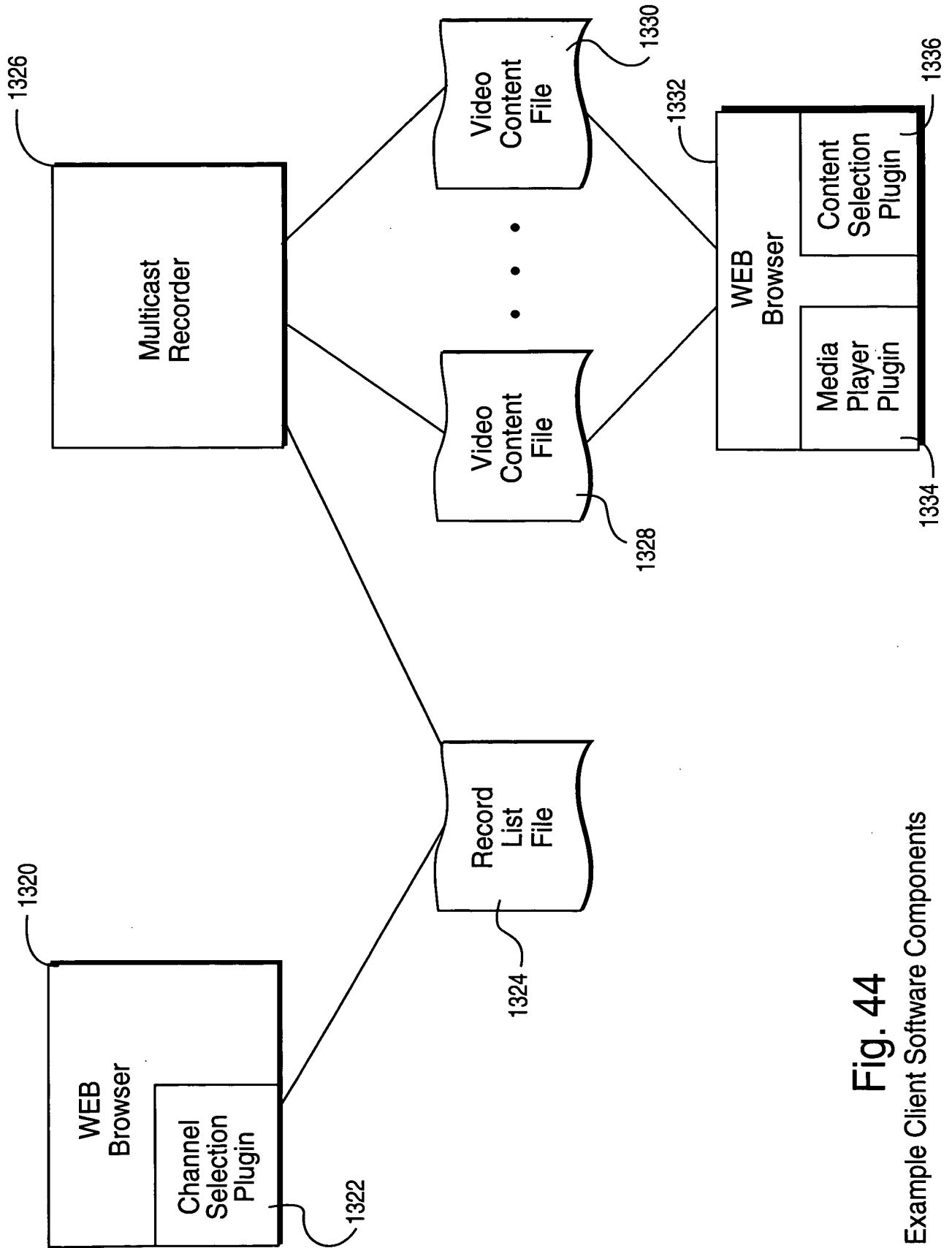


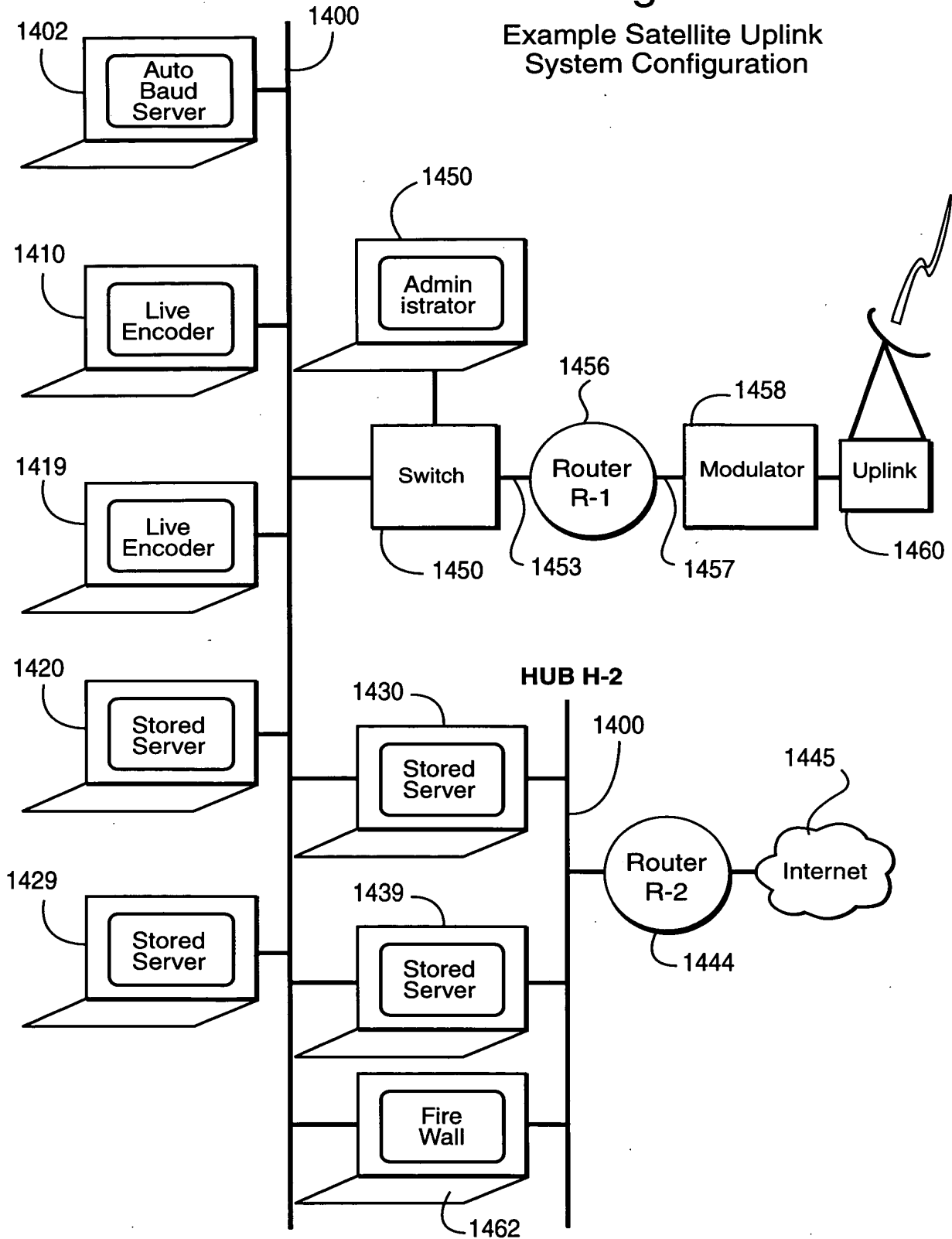
Fig. 44
 Example Client Software Components

WILLIAM G. VANDERBILT

HUB H-1

Fig. 45

Example Satellite Uplink System Configuration



Uplink Equipment List

Switch	HP 800T
Router R-1	Cisco 7205
Router R-2	Cisco 2503
Modulator	Raydyne 3030-HSSI
HUB H-1	Allied Telesys CentreCom FH824U
HUB H-2	3-Com SuperStack-II

AB = AutoBaud Server
 LEV = Live Encoder - Video
 LEA = Live Encoder - Audio
 SS = Stored Server
 A = Administrator
 FW = Fire Wall

HARDWARE	AB	LEV	LEA	SS/A	FW
Keyboard - Generic	x	x	x	x	x
Hard Disk - Generic 10 Gb	x	x	x	x	x
Floppy Disk - Generic 3 1/2	x	x	x	x	x
Monitor - Generic SVGA	x	x	x	x	x
Memory - Generic 128 MB ECC	x	x	x	x	x
Processor - Dual Pentium-III 450 mHZ	x	x	x	x	x
Motherboard - SuperMicro P6DGE	x	x	x	x	x
Ethernet IO - 3-Com 3C905 (2req)	x	x	x	x	x
Audio capture - Creative 128		x	x		
Video capture - Osprey 100		x			
SOFTWARE					
Operating System - Microsoft NT Server 4	x	x	x	x	x
Encoding - Microsoft Media Services 4		x	x		
Fire Wall - Axent Raptor 6					x

Fig. 46

Example Satellite Uplink
 System Equipment List

Fig. 47
Example ISP Connected
Downlink Equipment

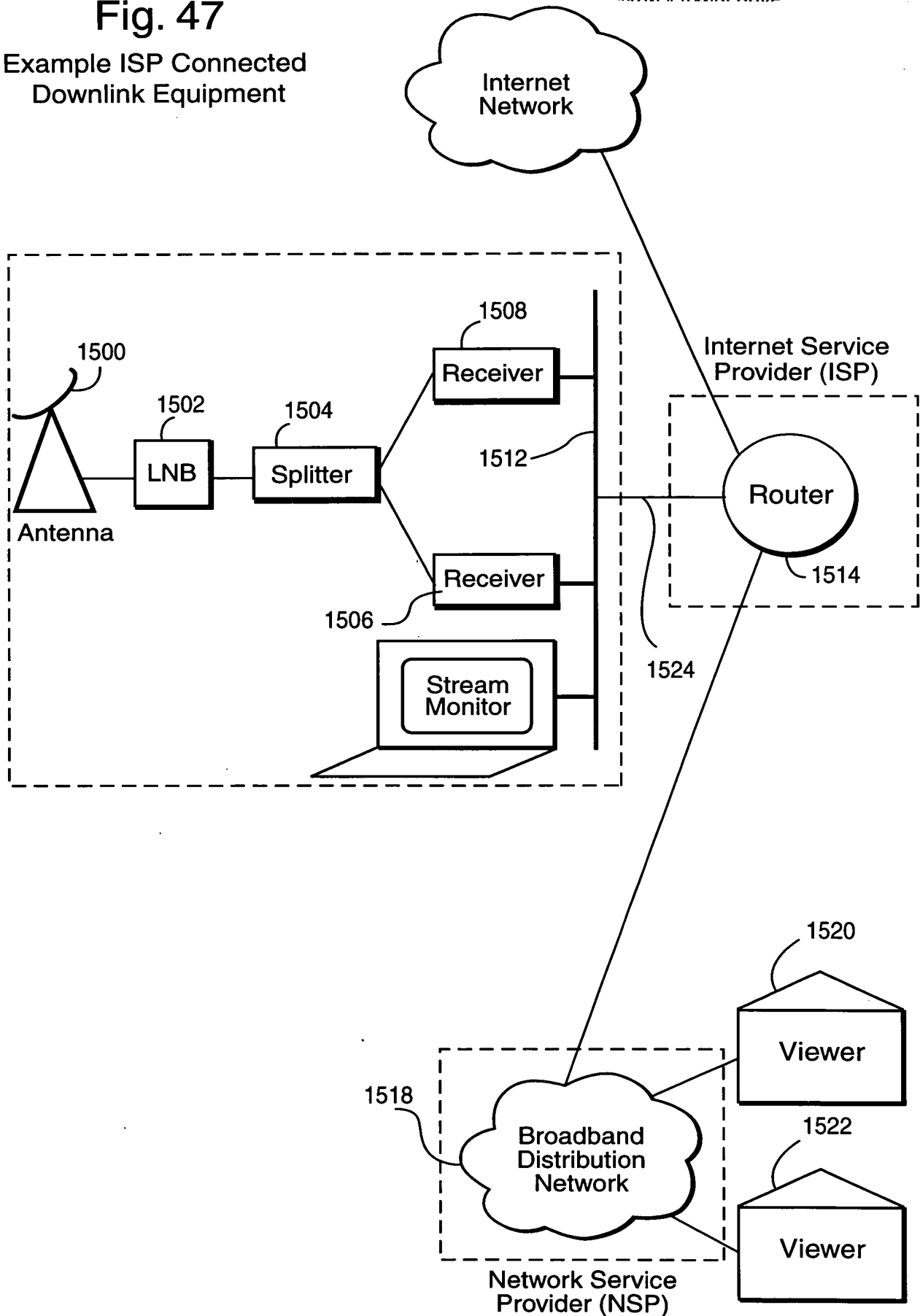
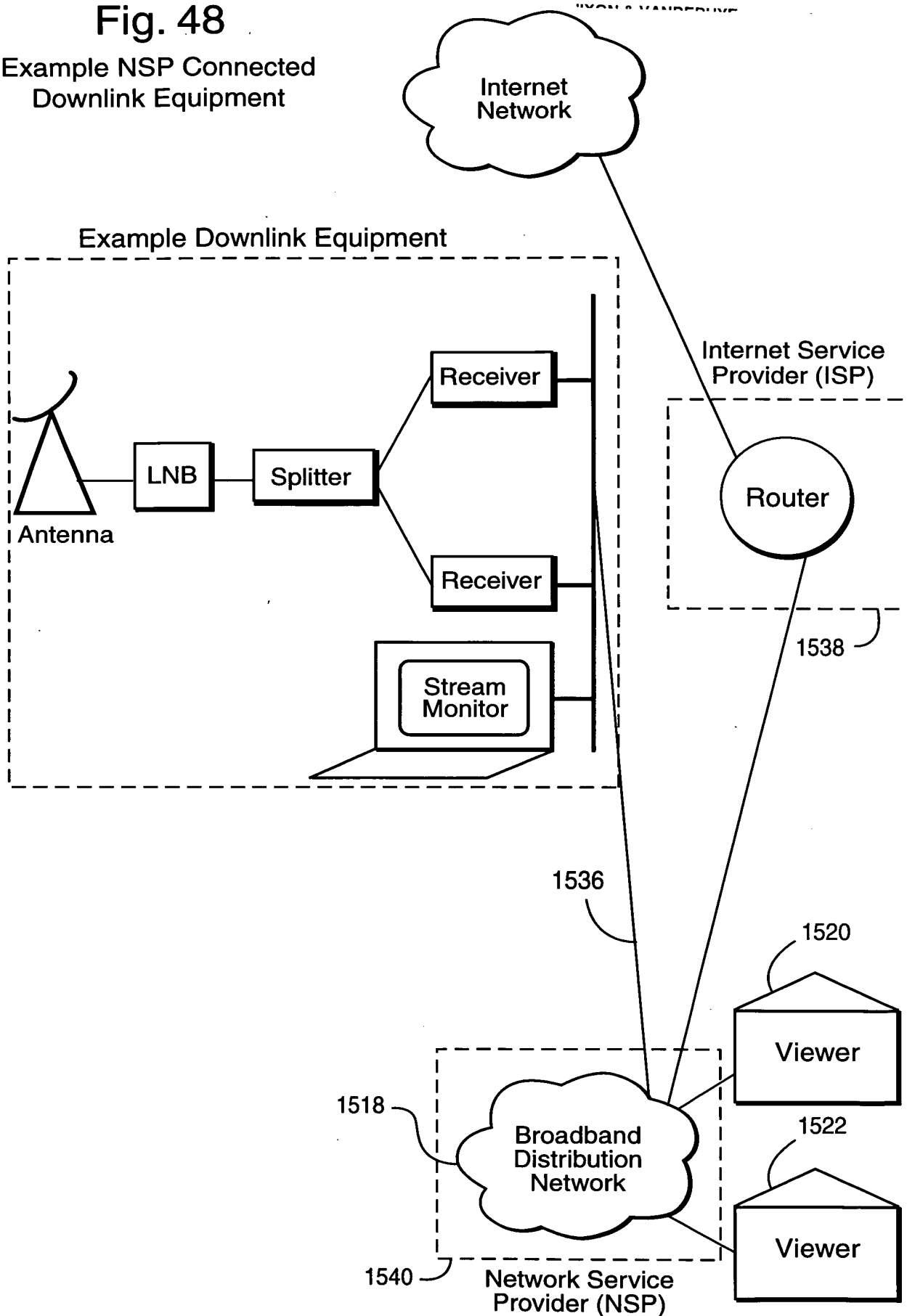


Fig. 48
 Example NSP Connected
 Downlink Equipment



HUB Allied Telesys CentreCom FH824U

Antenna Prodlin

LNB ??

Receiver (2req) StarGuide Digital SG-II with 100Base T Ethernet card

HARDWARE

Keyboard - Generic

Hard Disk - Generic 10 Gb

Floppy Disk - Generic 3 1/2

Monitor - Generic SVGA

Memory - Generic 128 MB ECC

Processor - Dual Pentium-III 450 mHZ

Motherboard - SuperMicro P6DGE

Ethernet IO - 3-Com 3C905

SOFTWARE

Operating System - Microsoft NT Server 4

Fig. 49

Example Satellite Downlink
System Equipment List

Fig. 50
Example National Video/Audio
Content Distribution Architecture

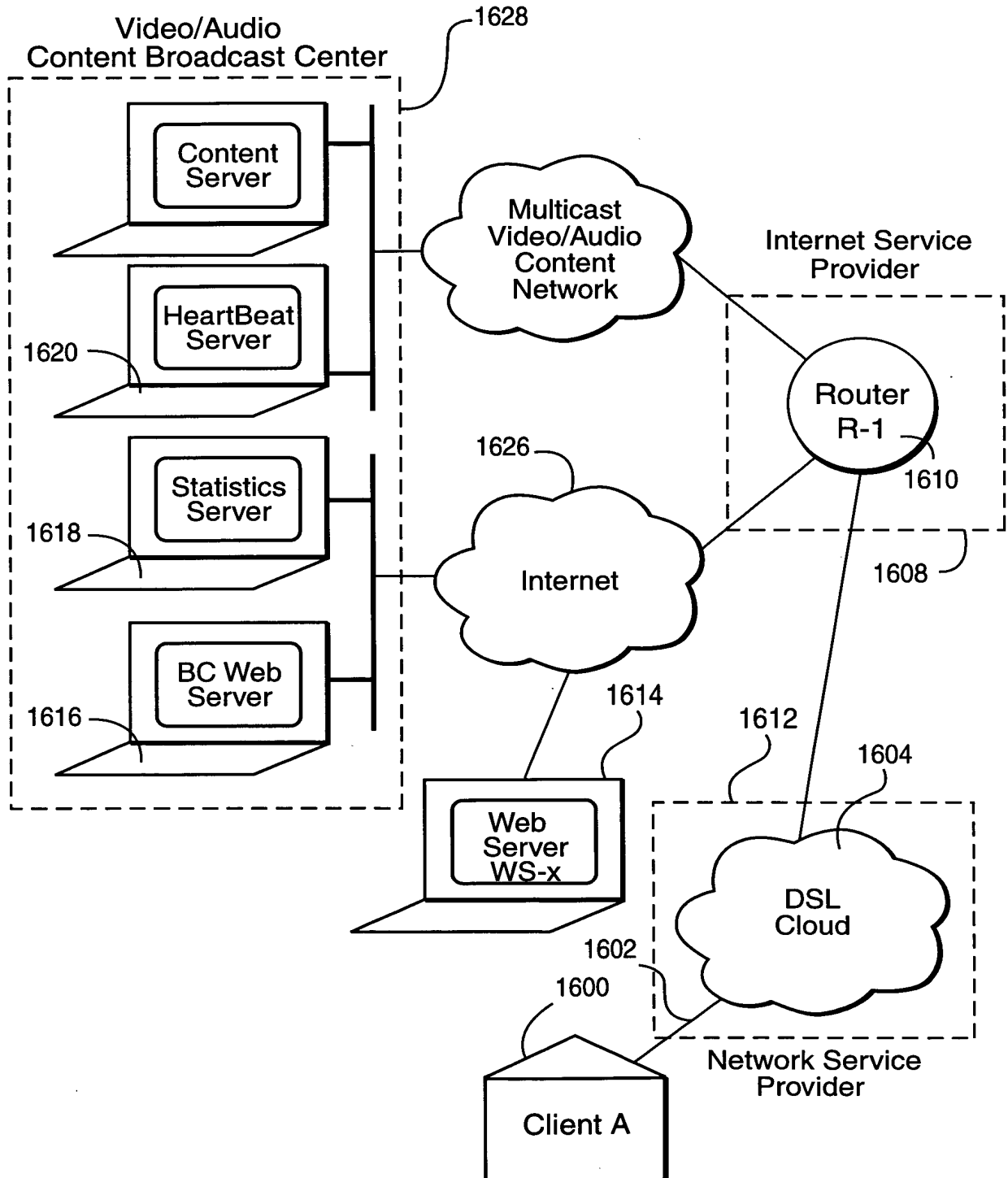


Fig. 51
 Example Configuration for Local
 Co-Branding of National Content

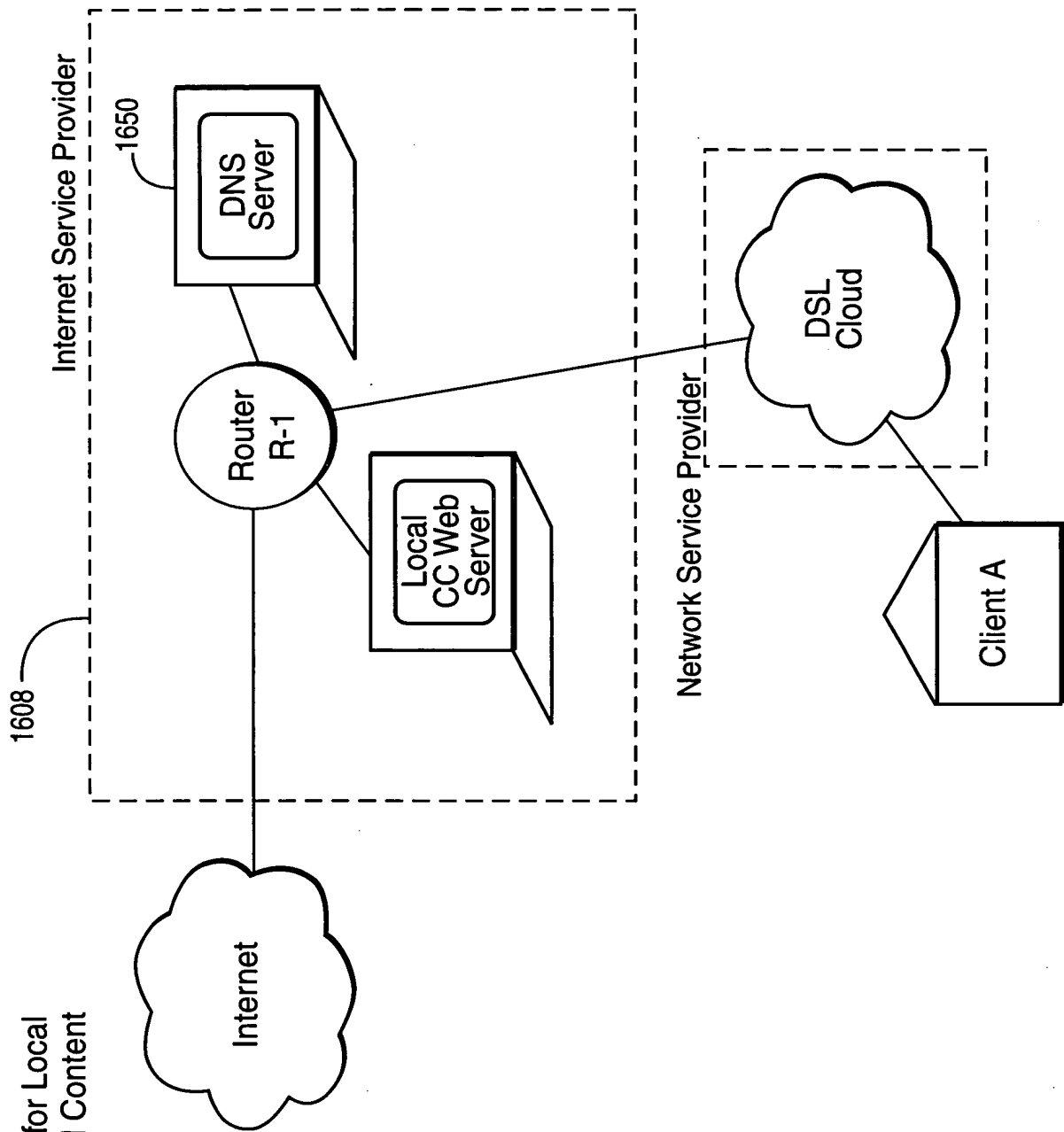
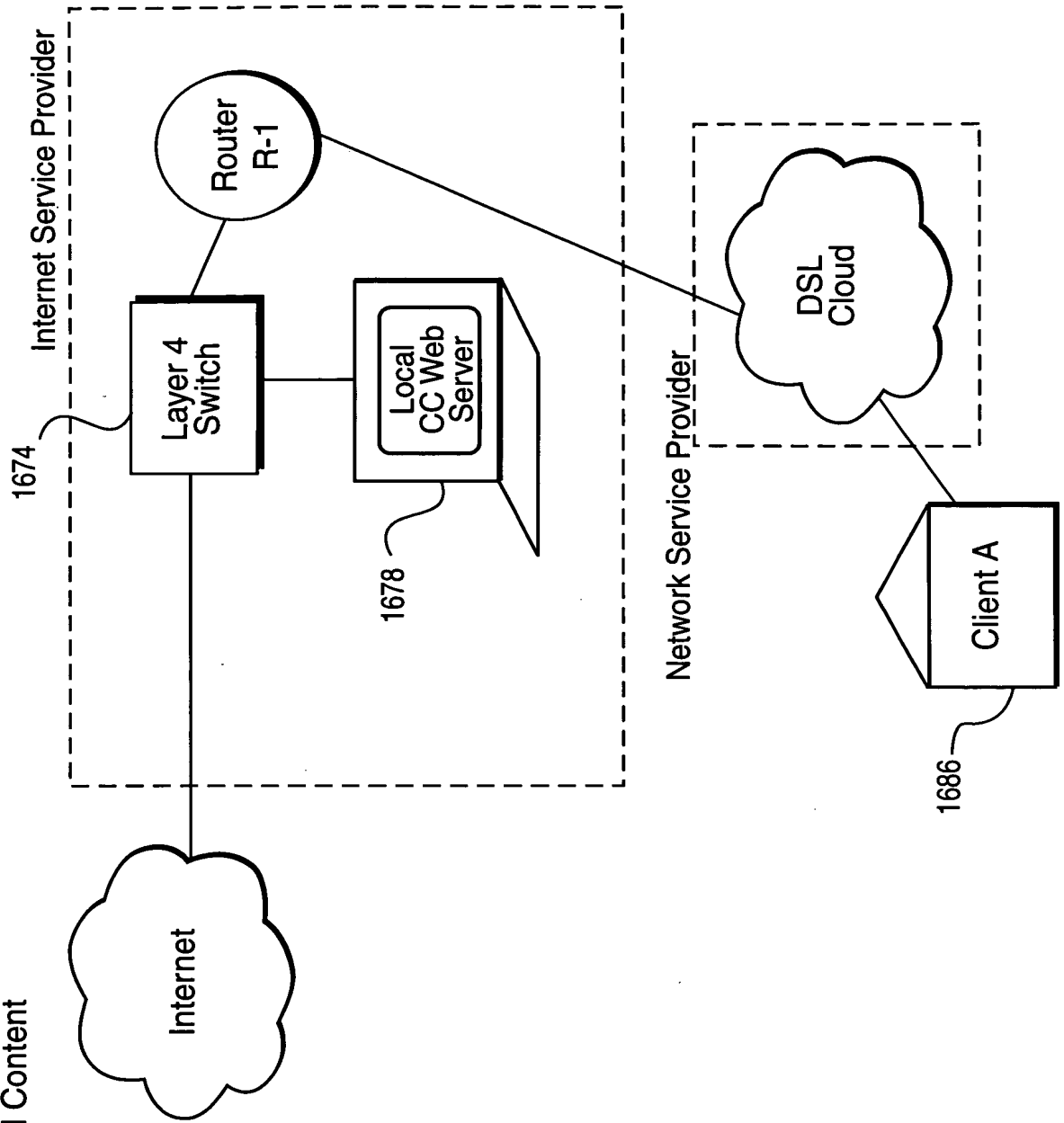
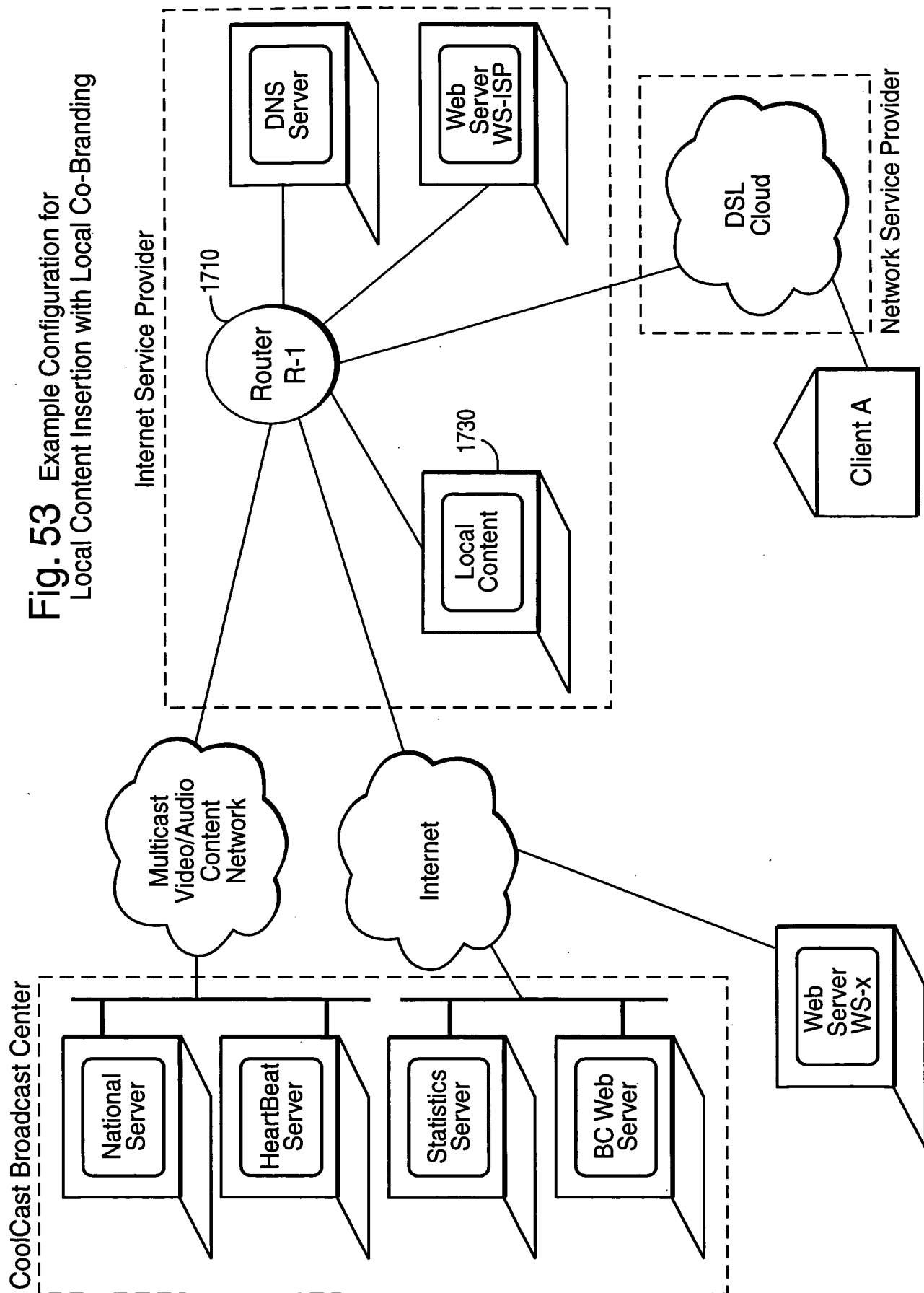


Fig. 52
 Example Configuration for Local
 Co-Branding of National Content





CoolCast Broadcast Center

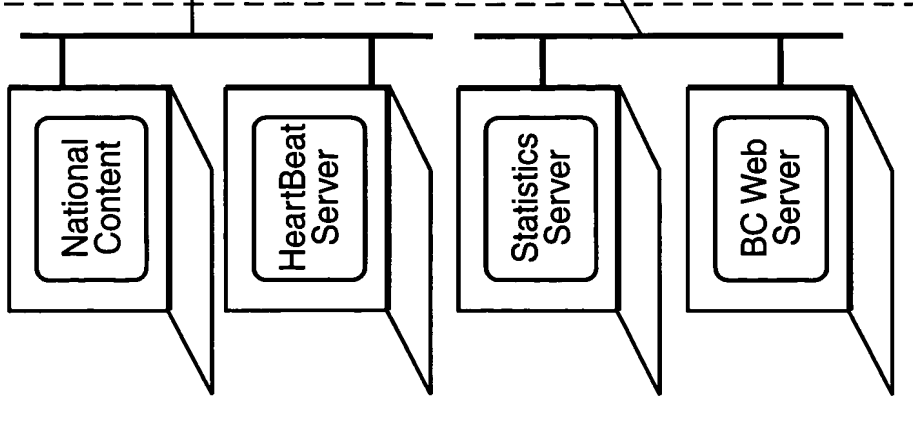


Fig. 54 Example Configuration for Local Content and Ad Insertion with Local Co-Branding

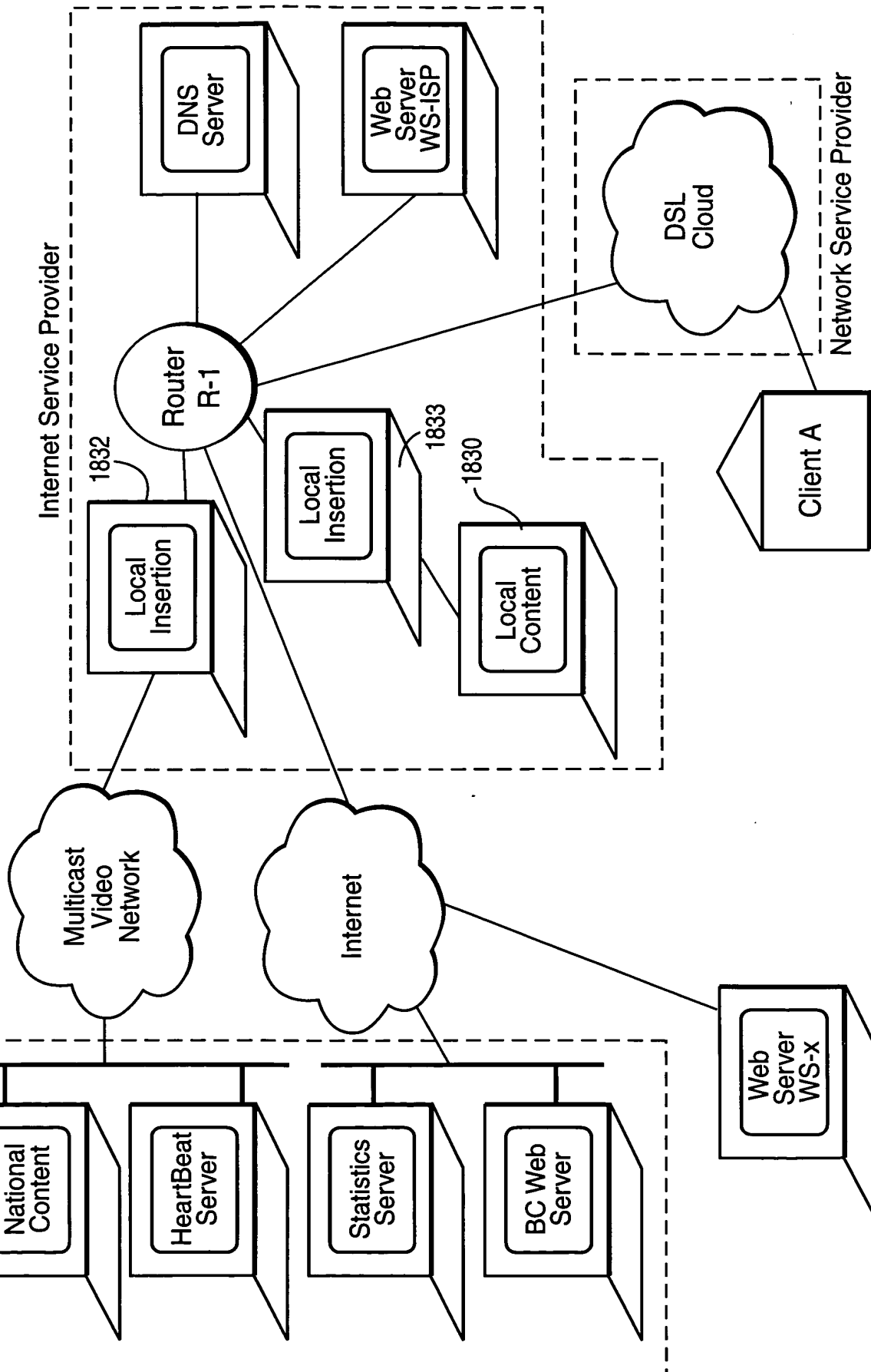
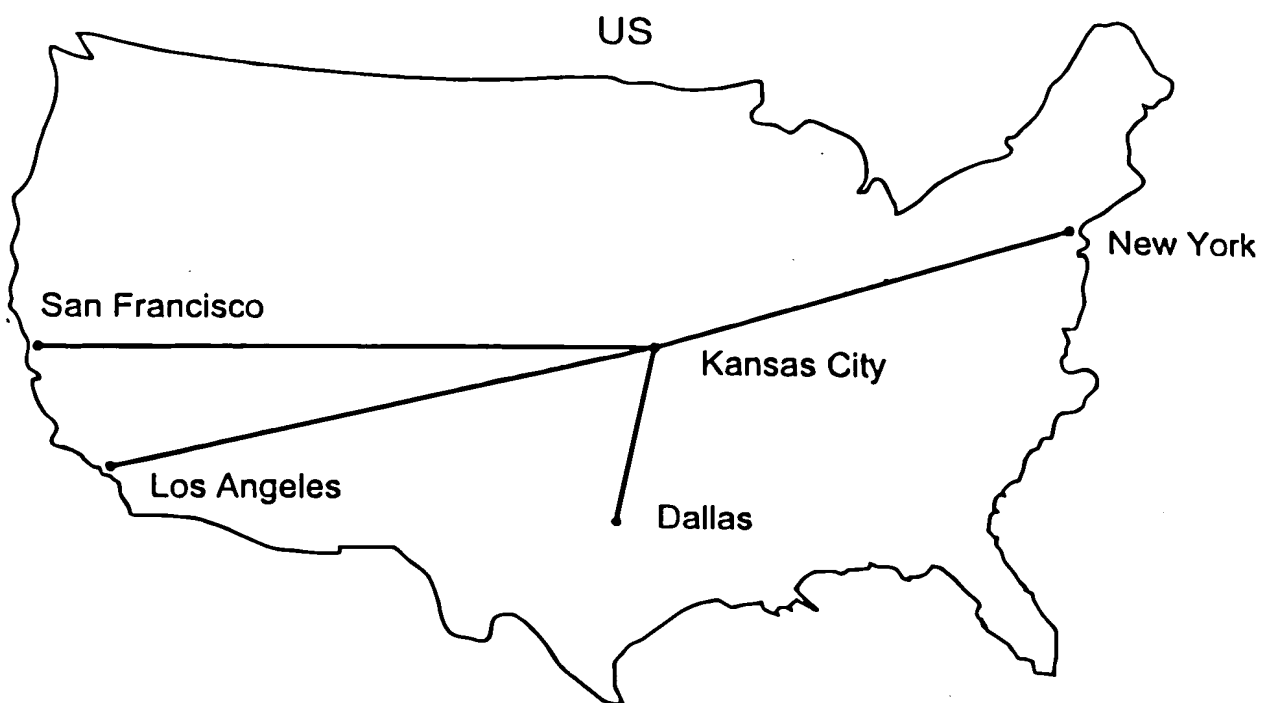


Fig. 1A
(Prior Art)



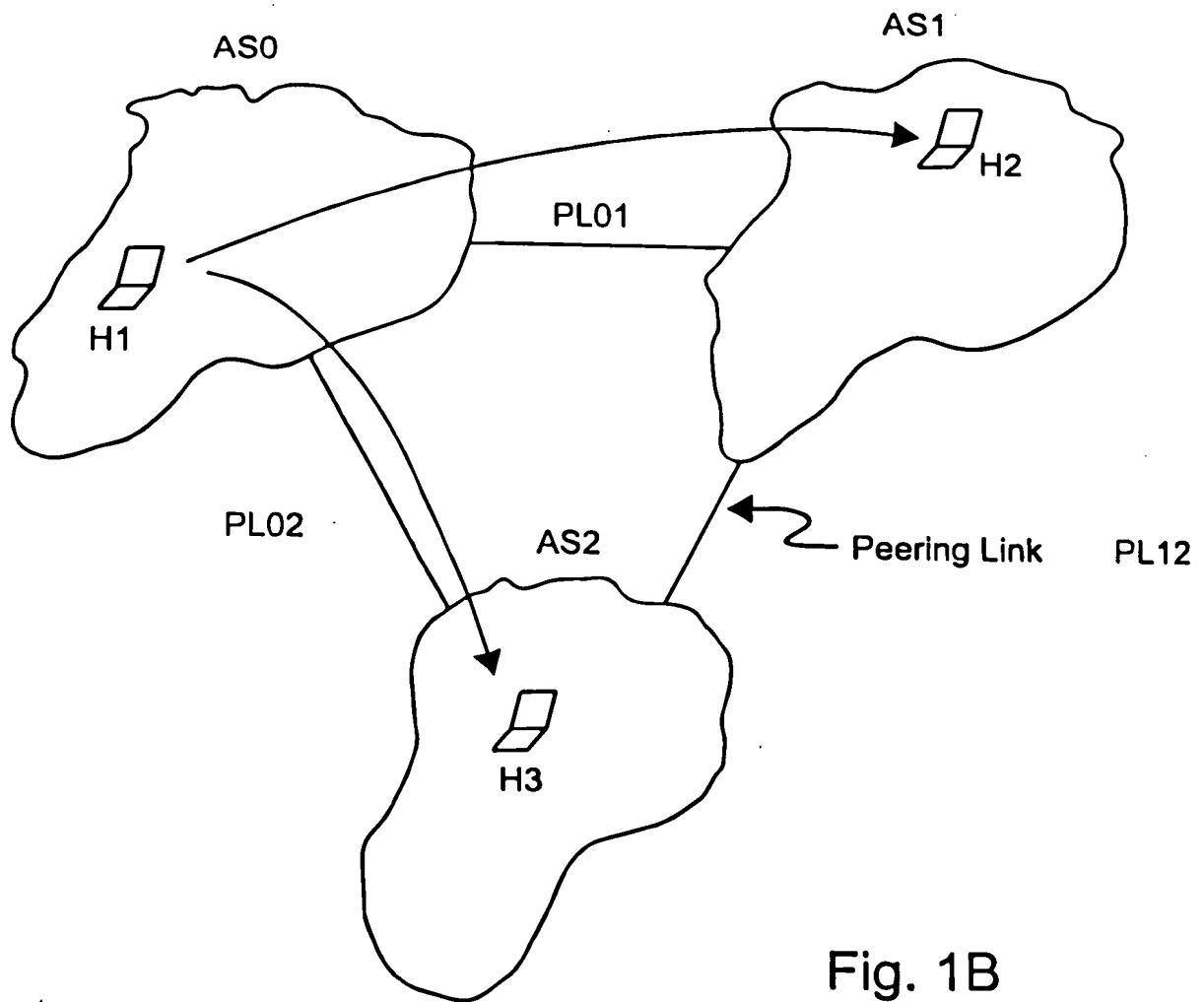


Fig. 1B
(Prior Art)

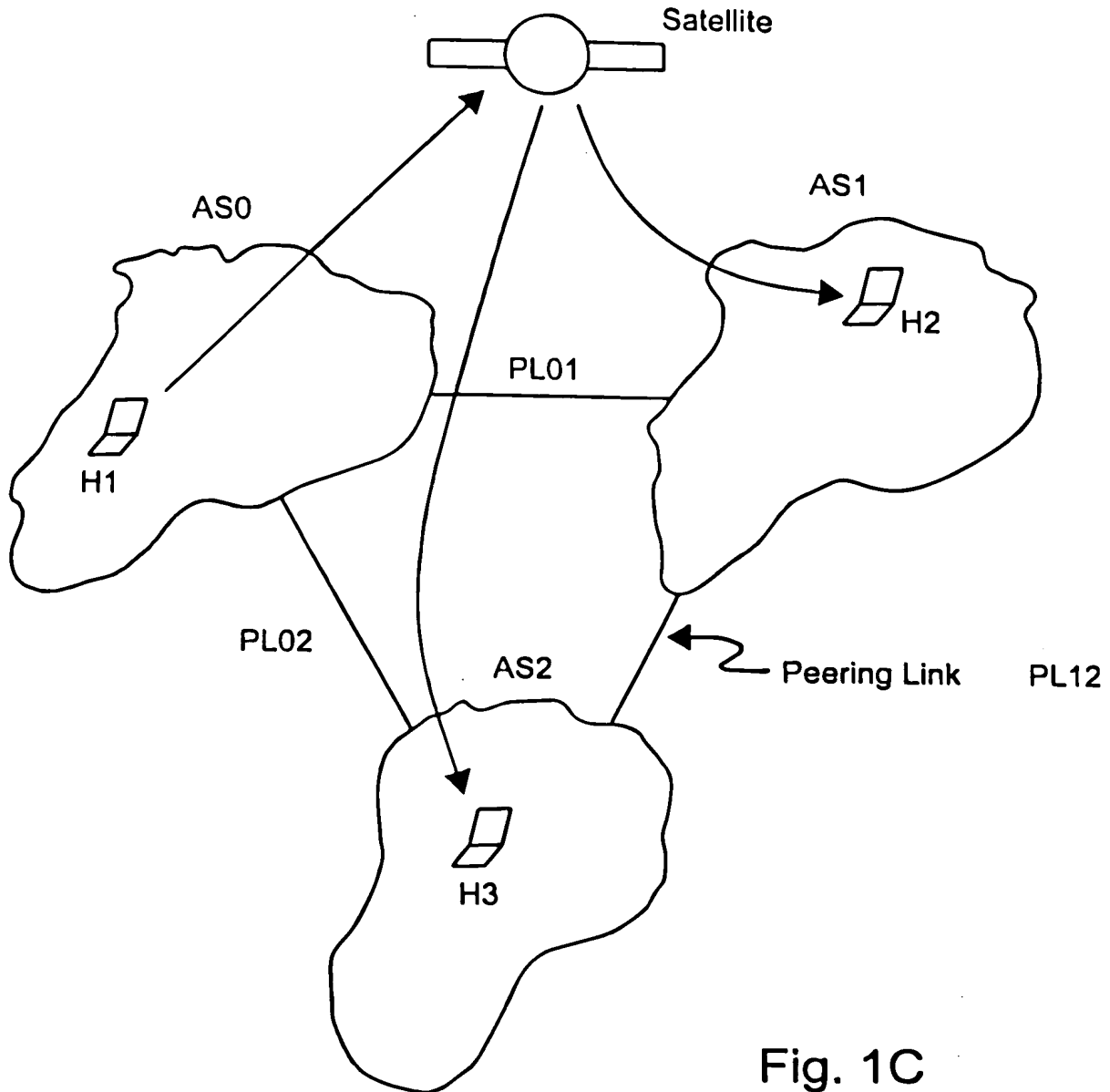


Fig. 1C
(Prior Art)

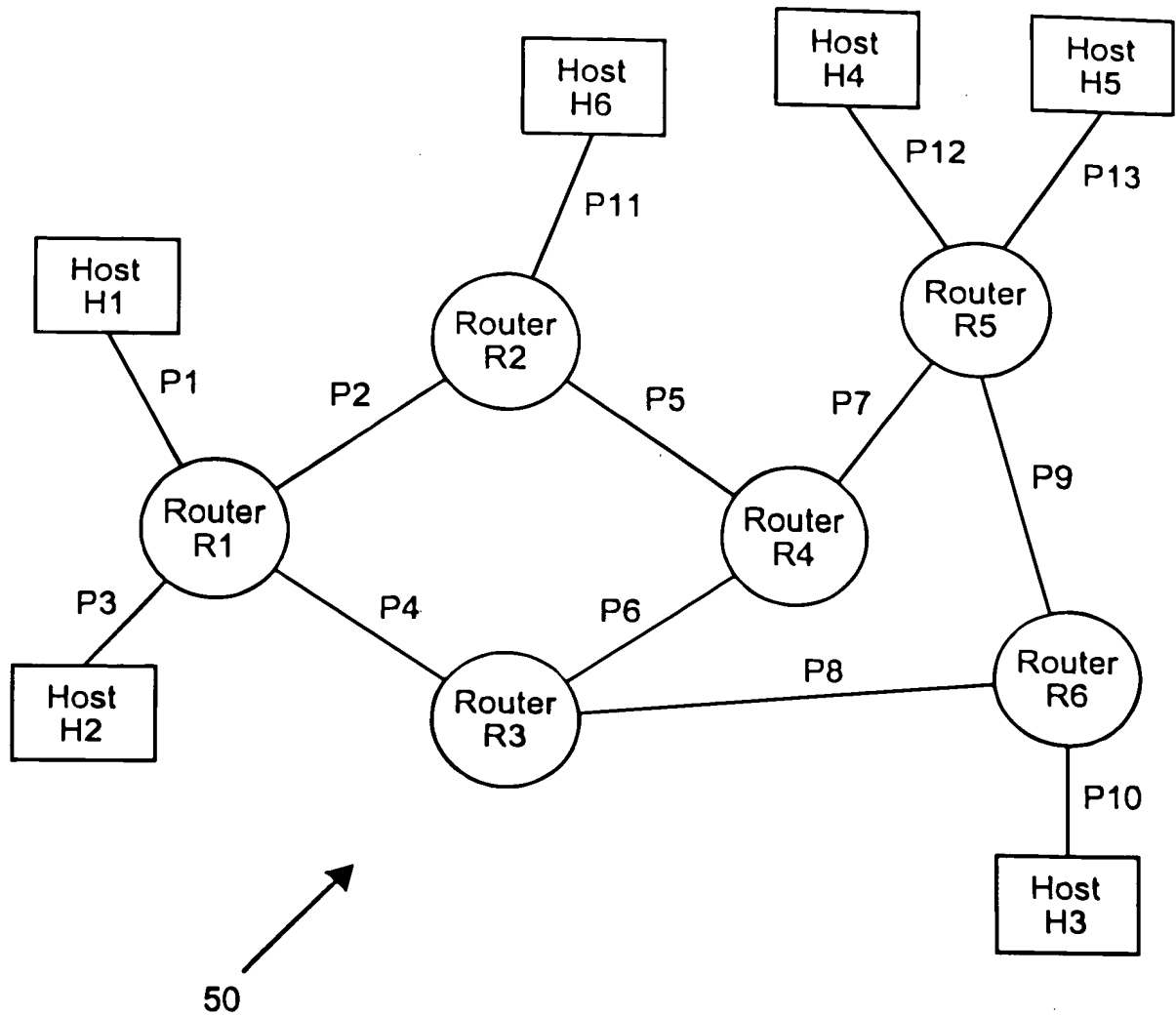


Fig. 1D
(Prior Art)

Fig. 2

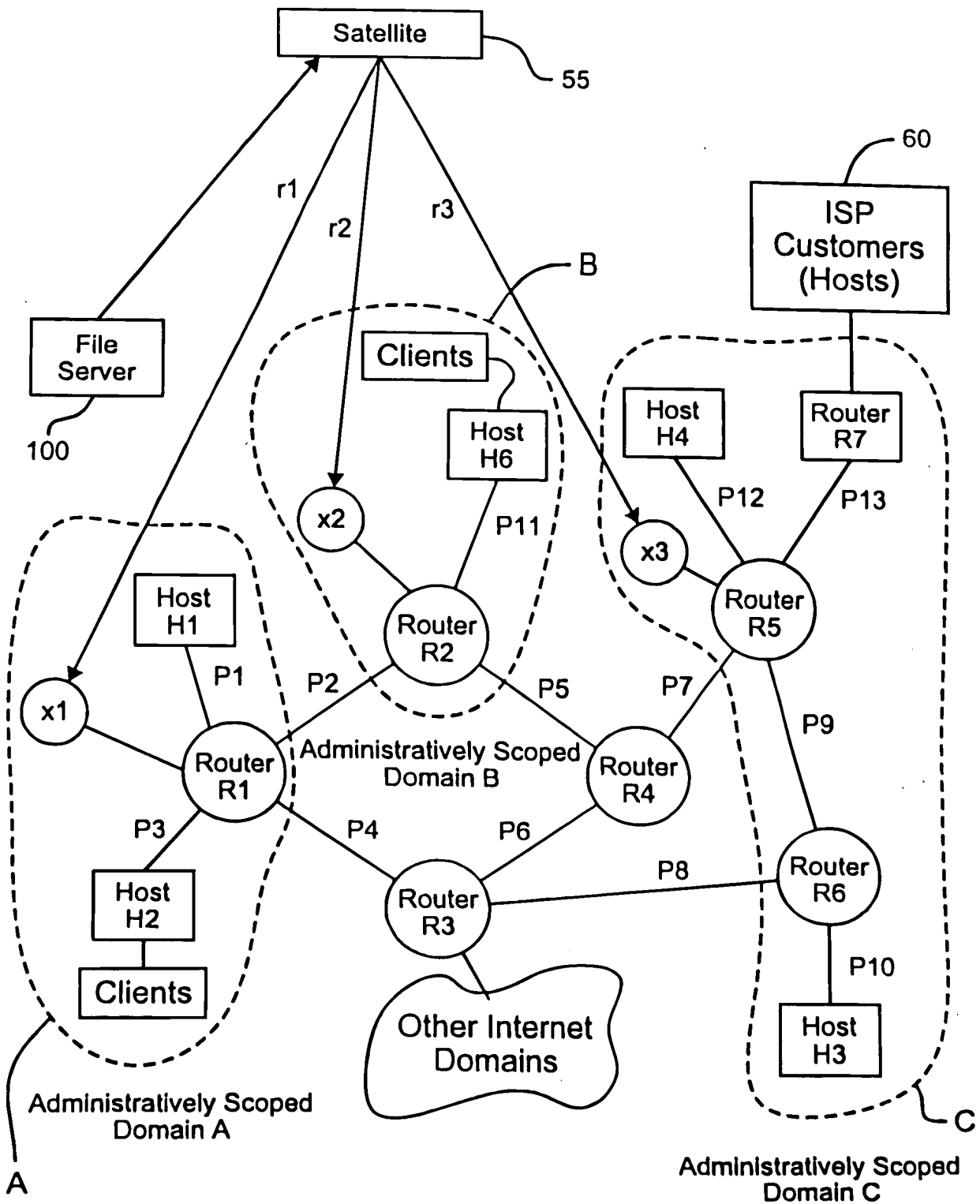
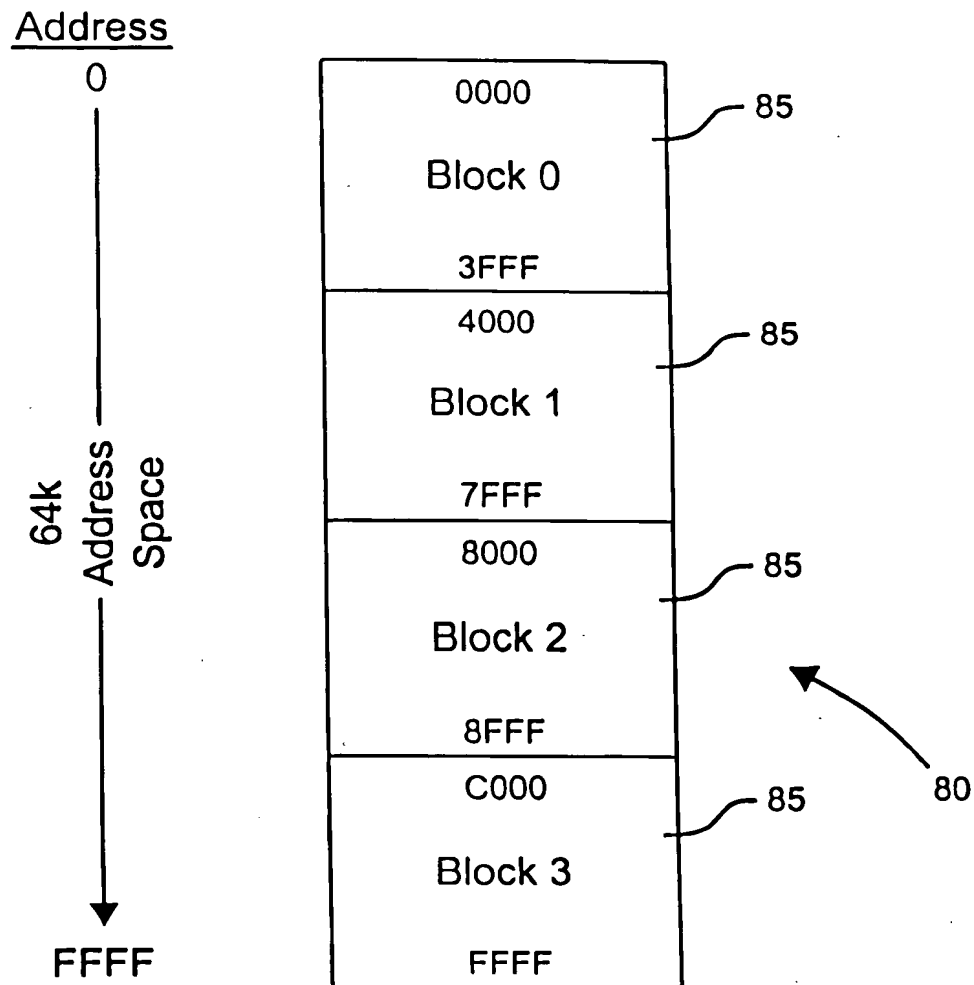


Fig. 3



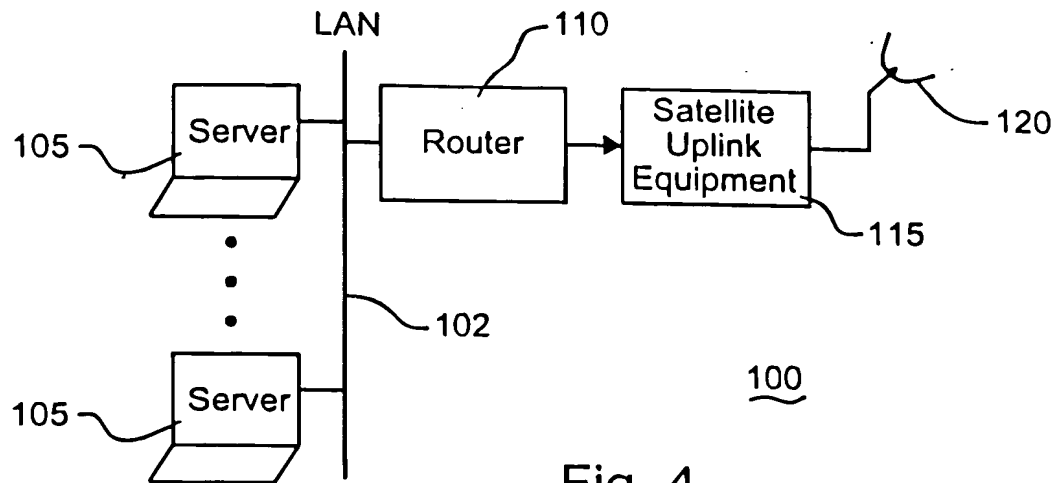


Fig. 4

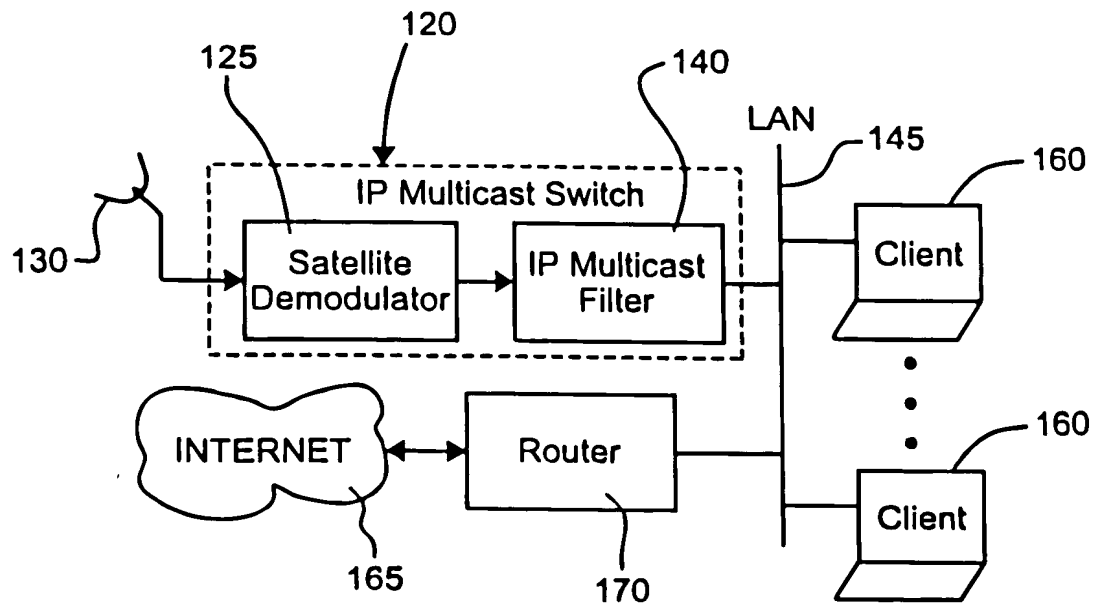
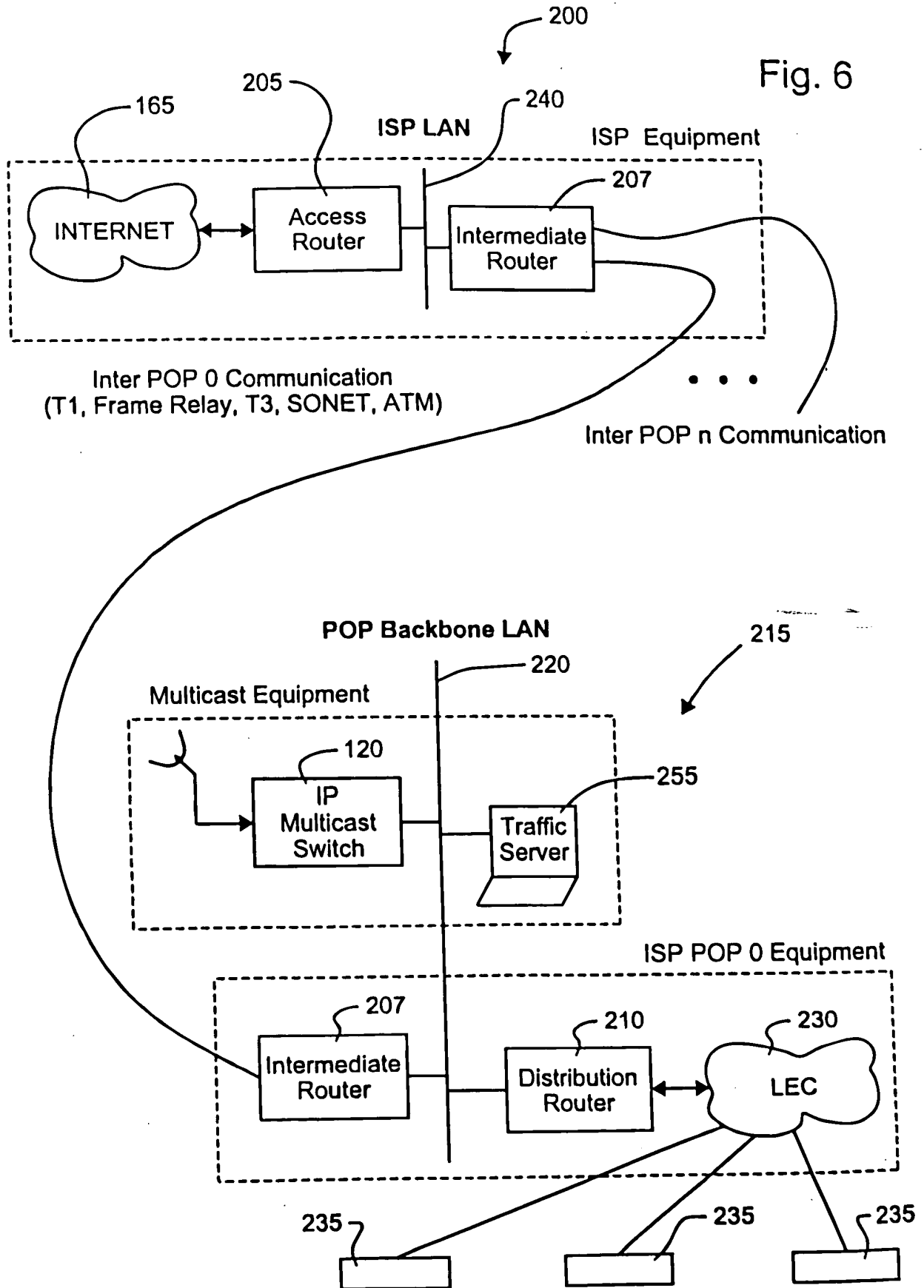


Fig. 5

Fig. 6



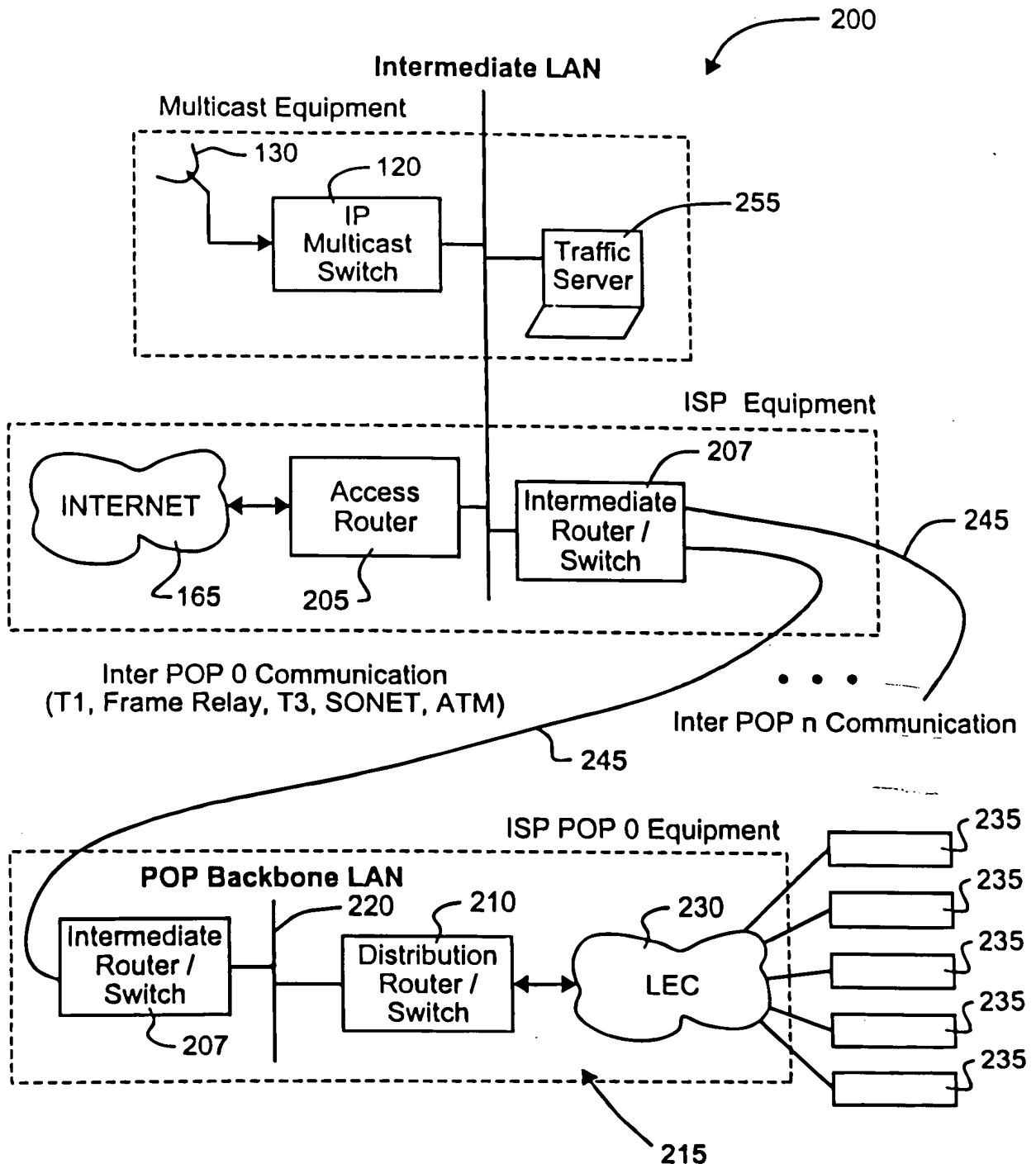


Fig. 7

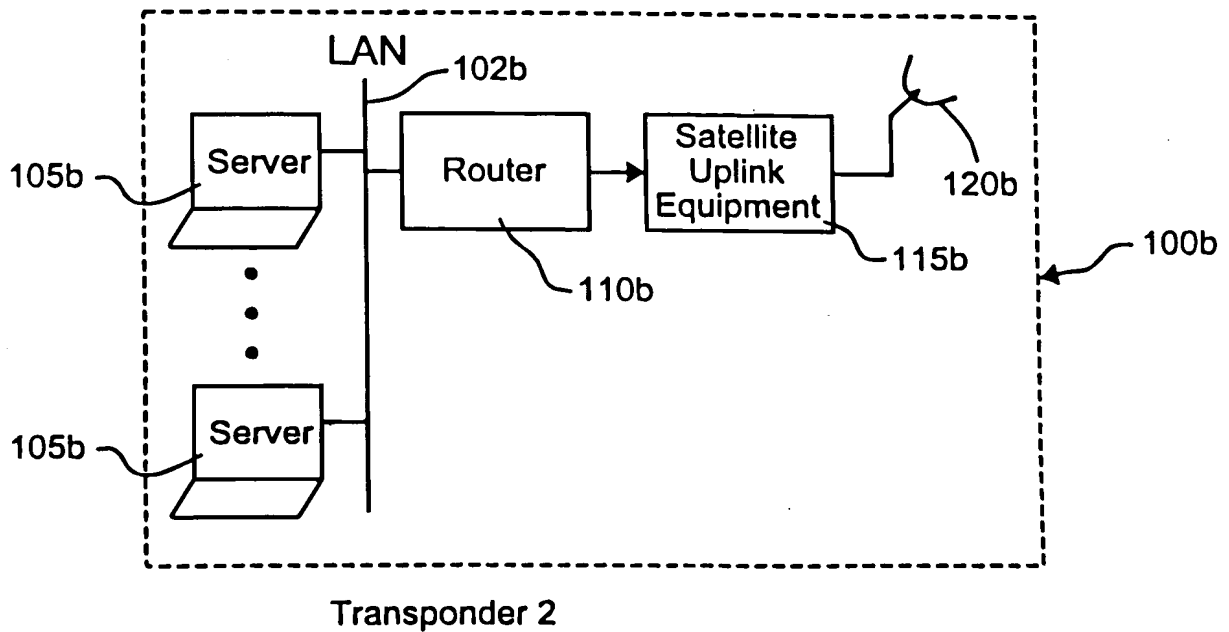
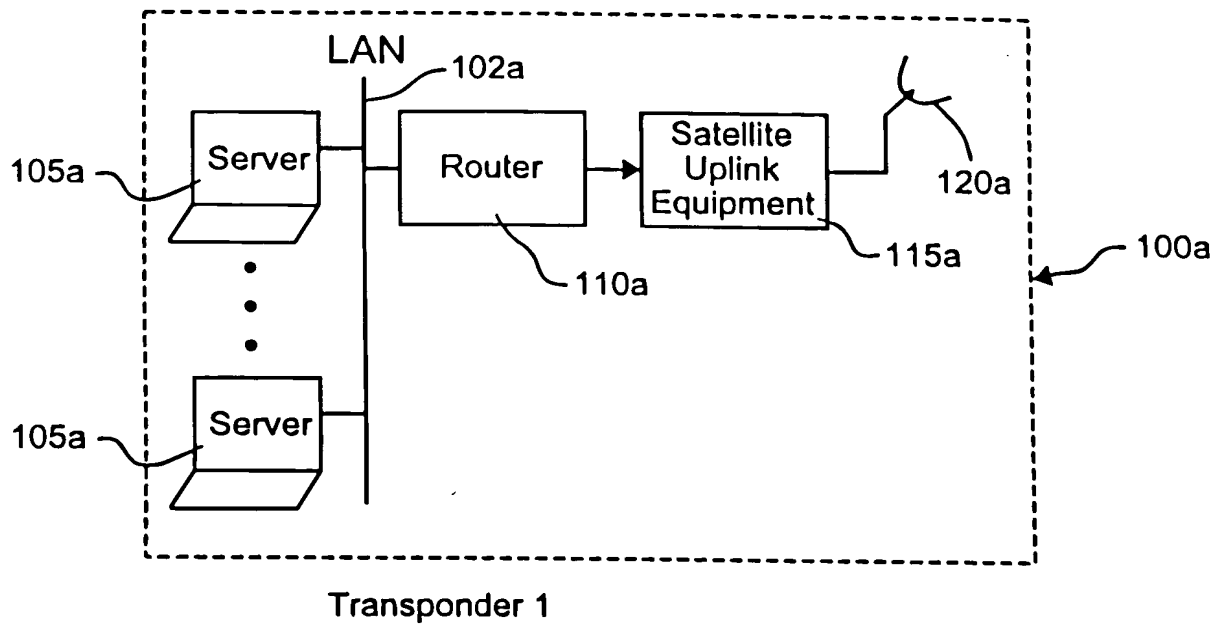


Fig. 8a

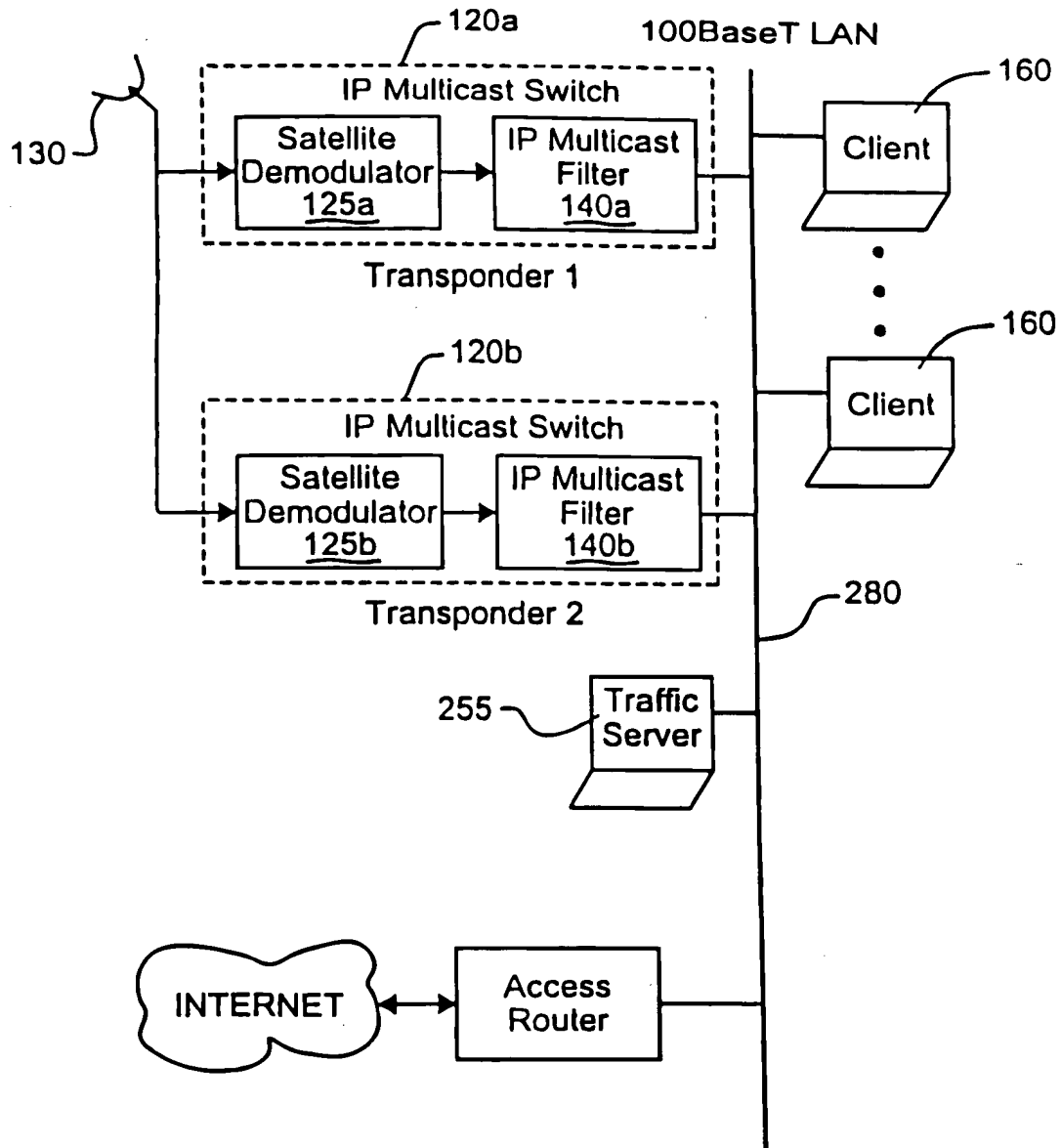


Fig. 8b

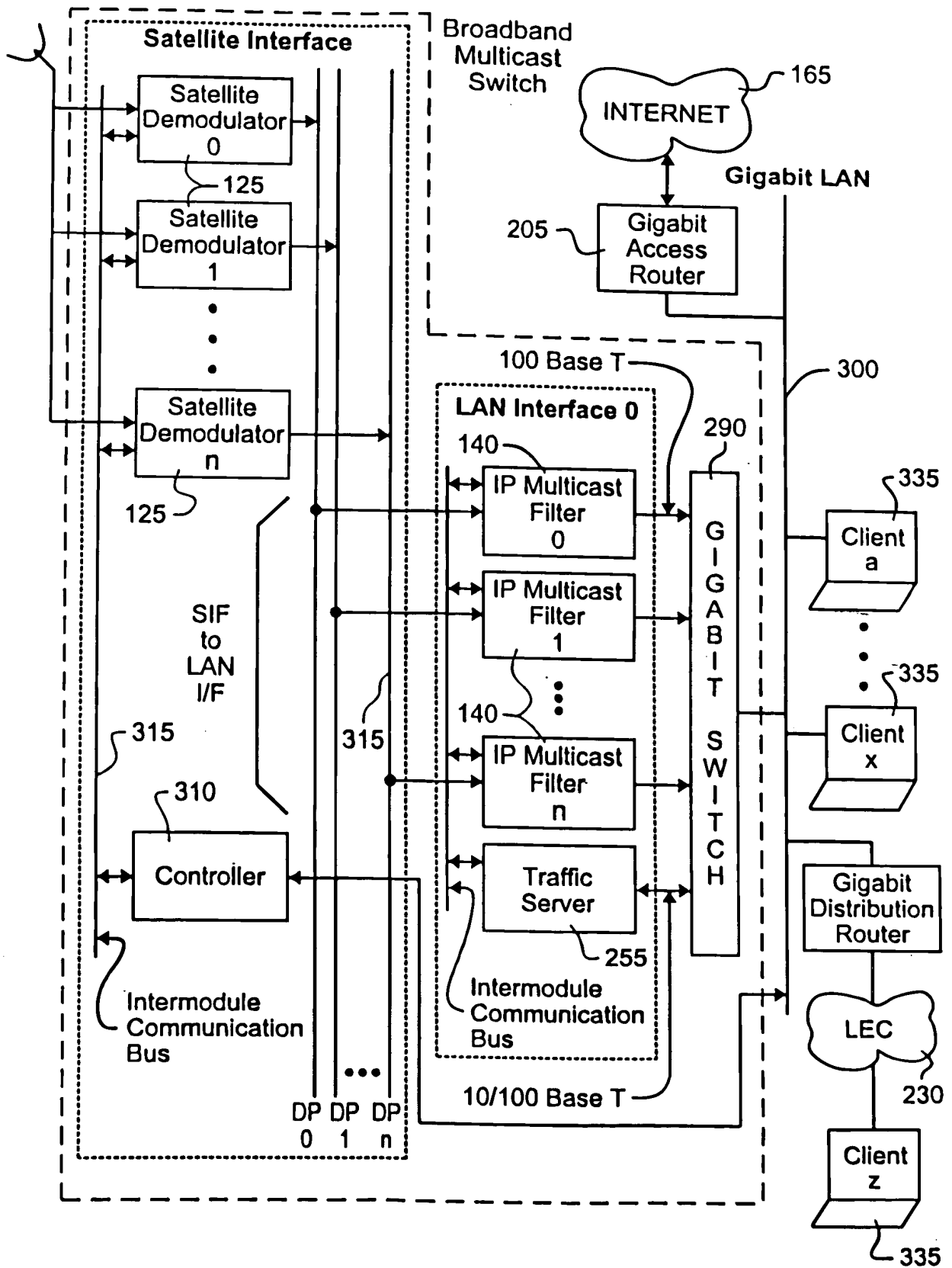


Fig. 9

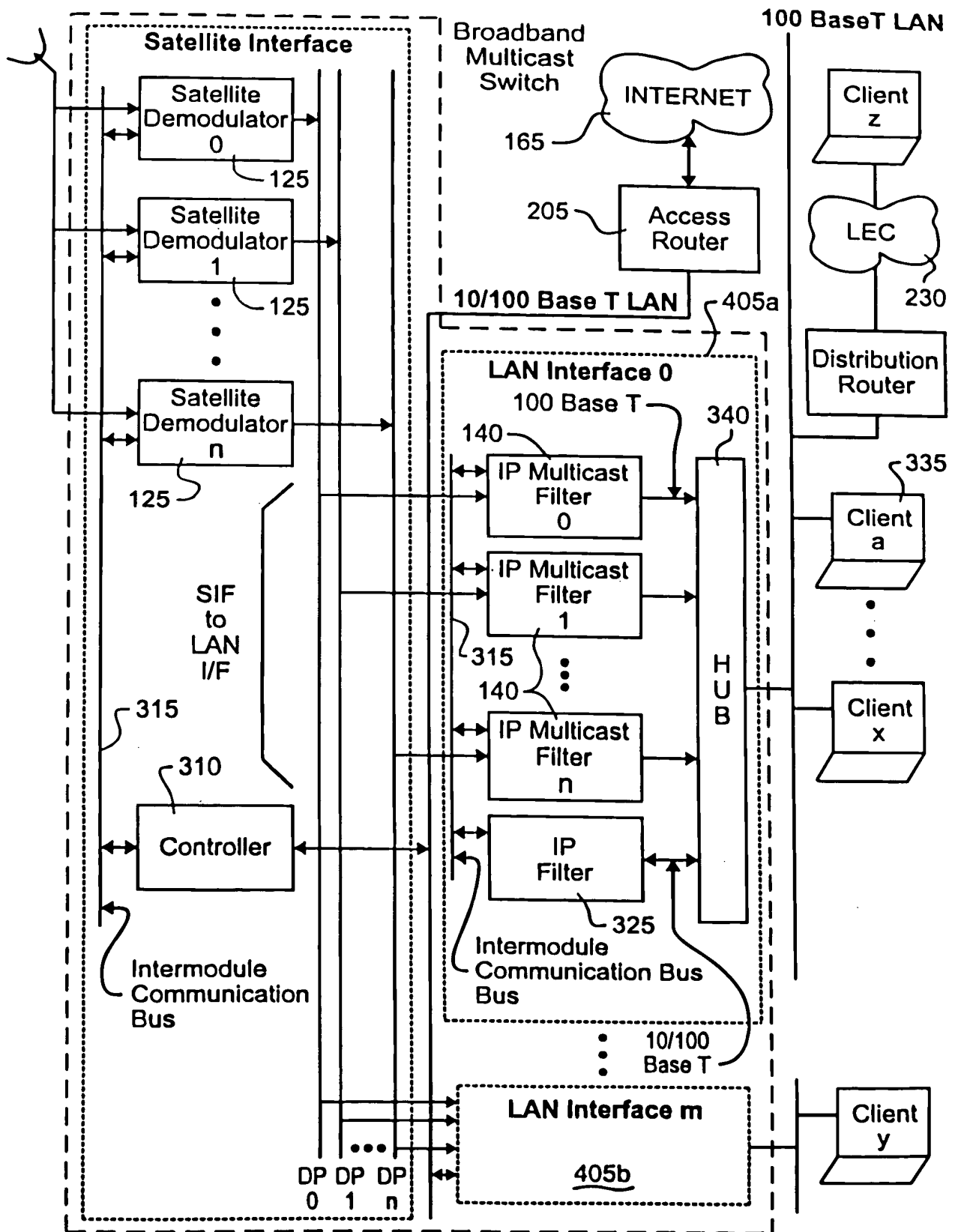


Fig. 10

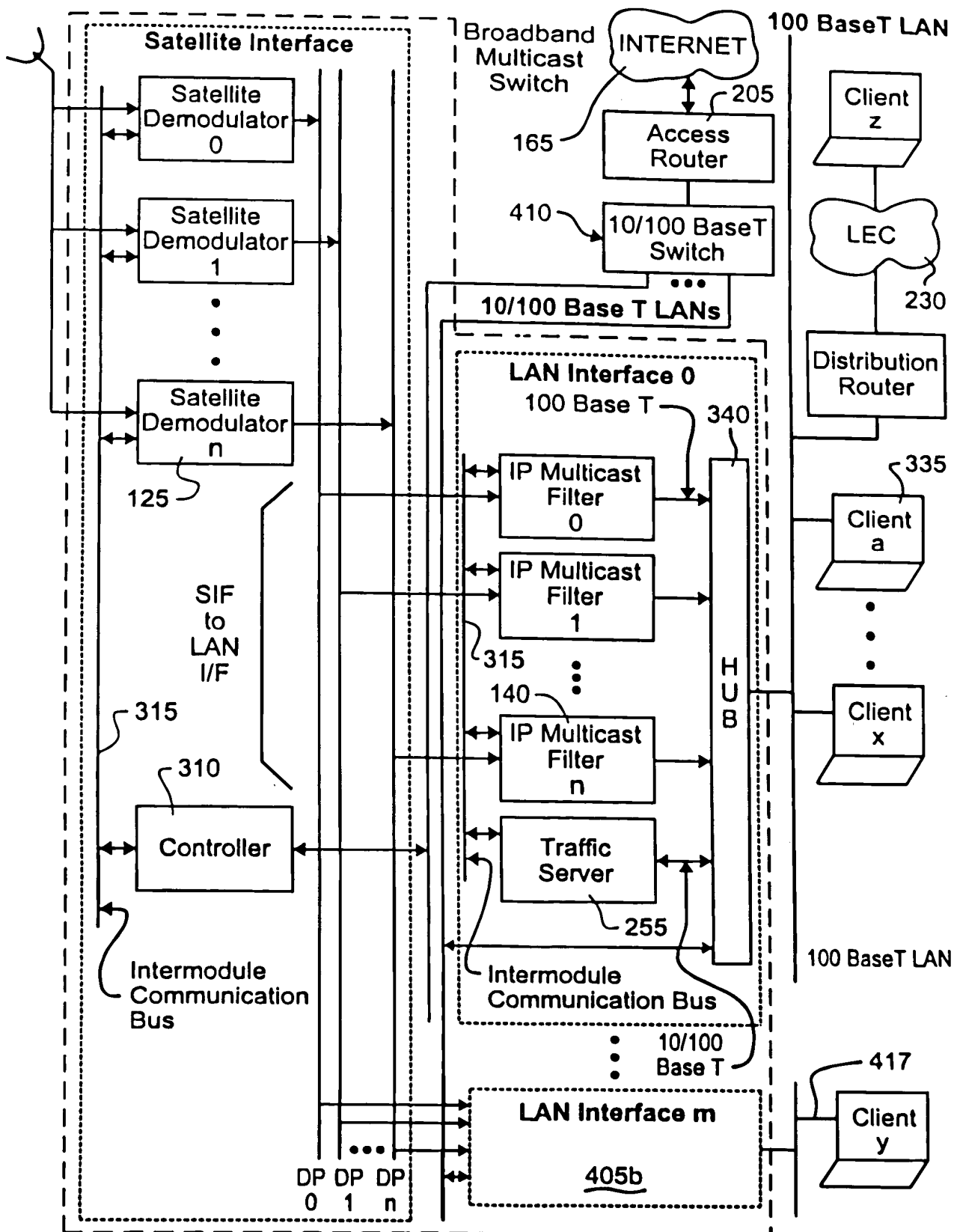
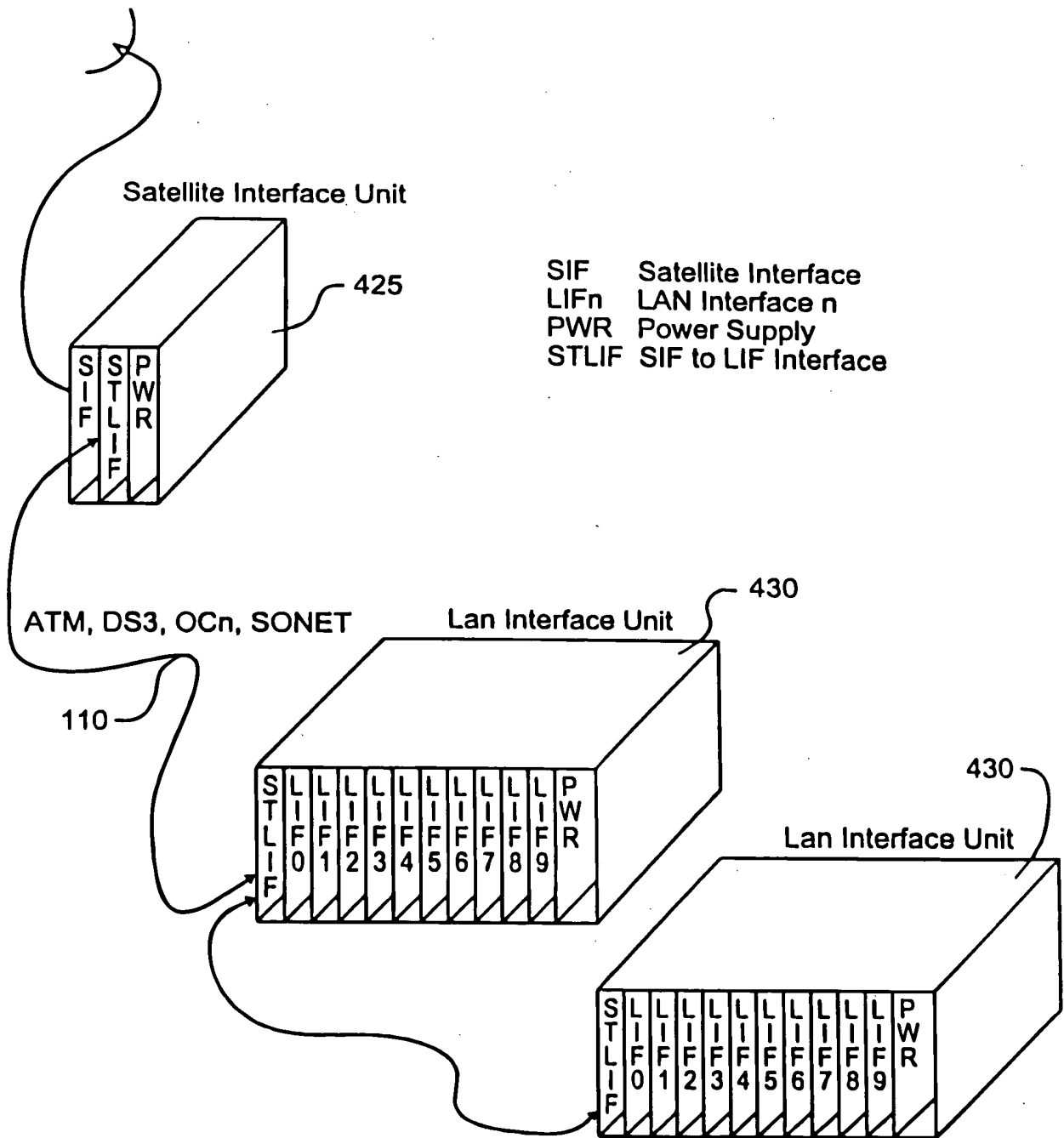


Fig. 11

Fig. 12



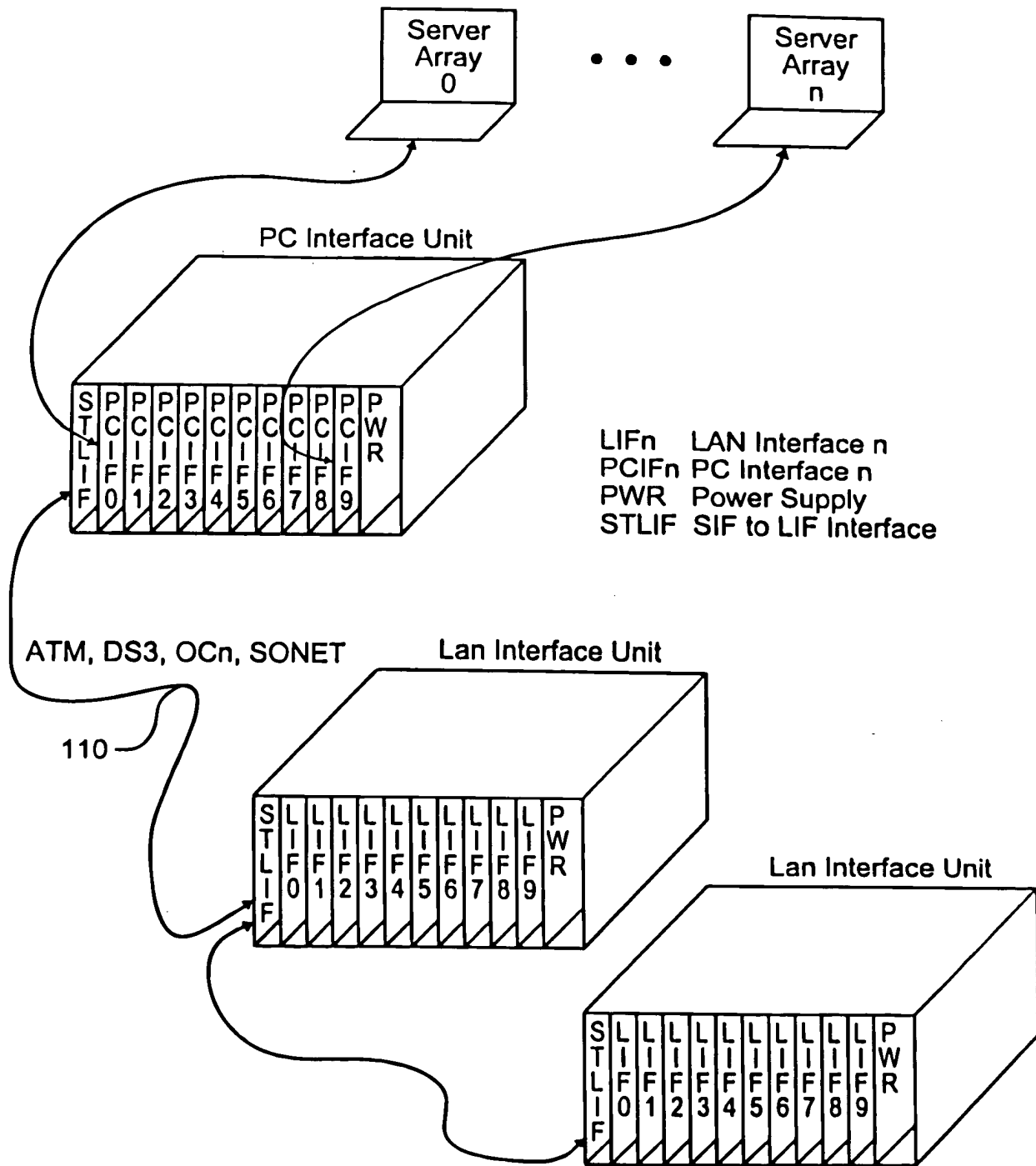


Fig. 13

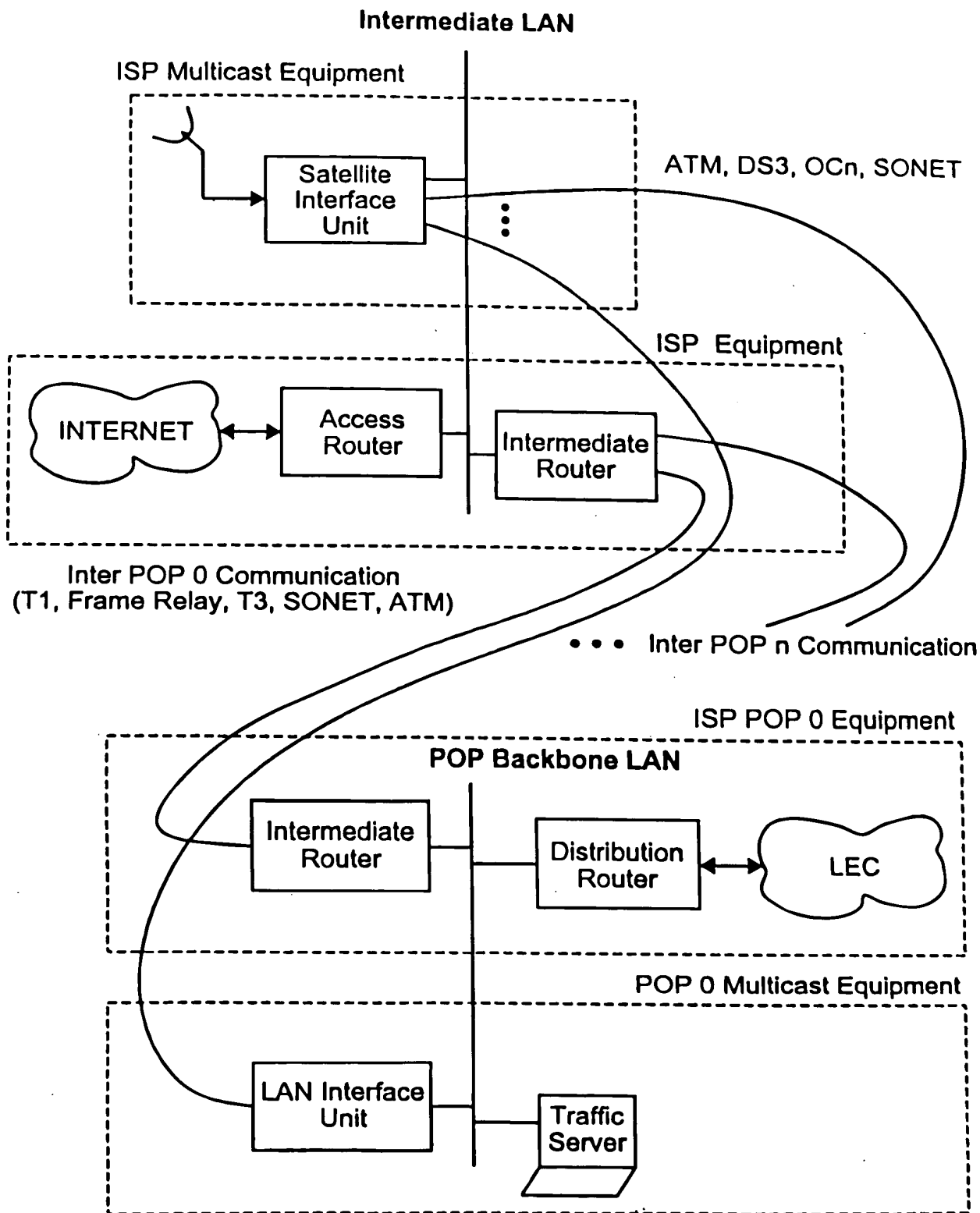


Fig. 14A

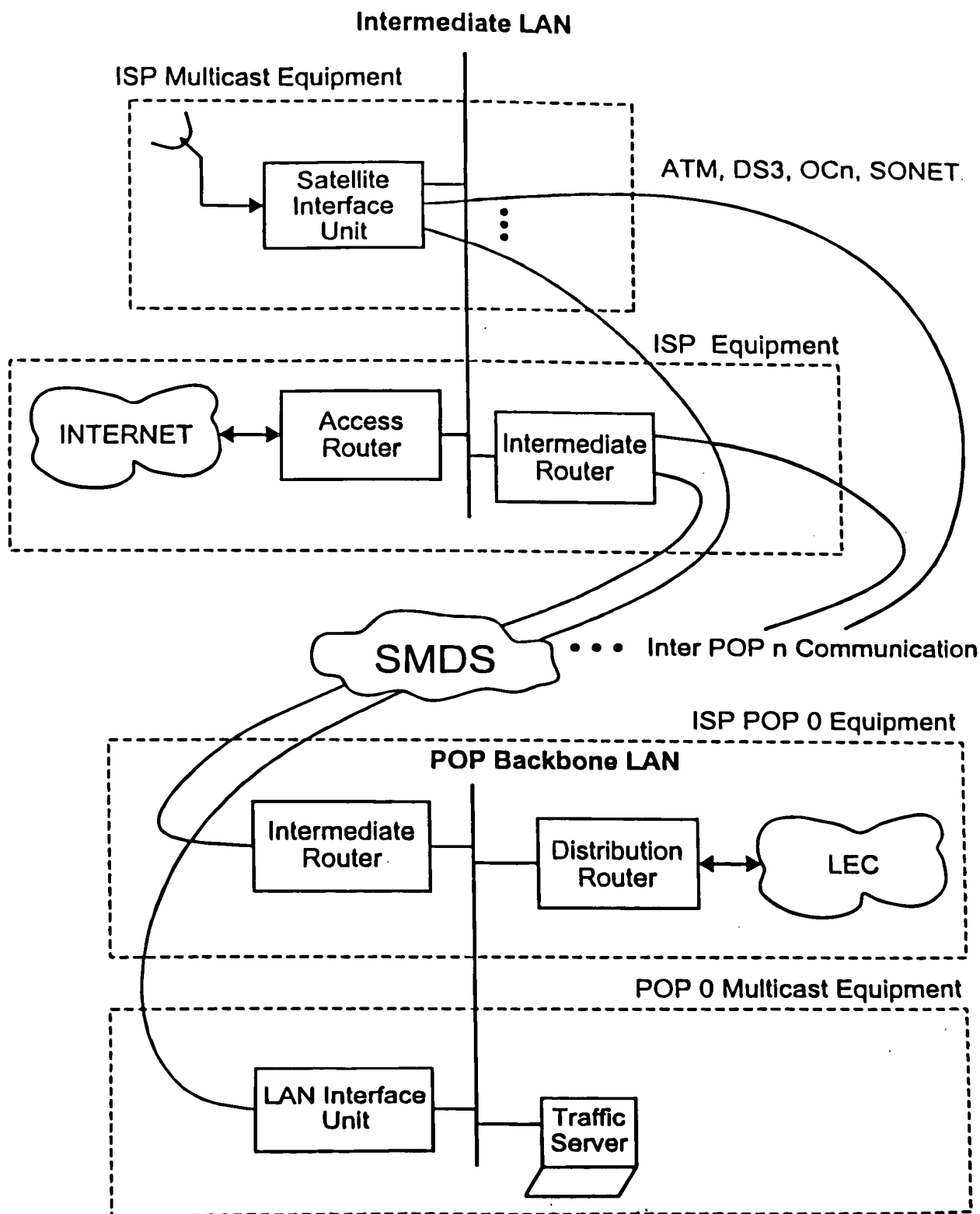


Fig. 14B

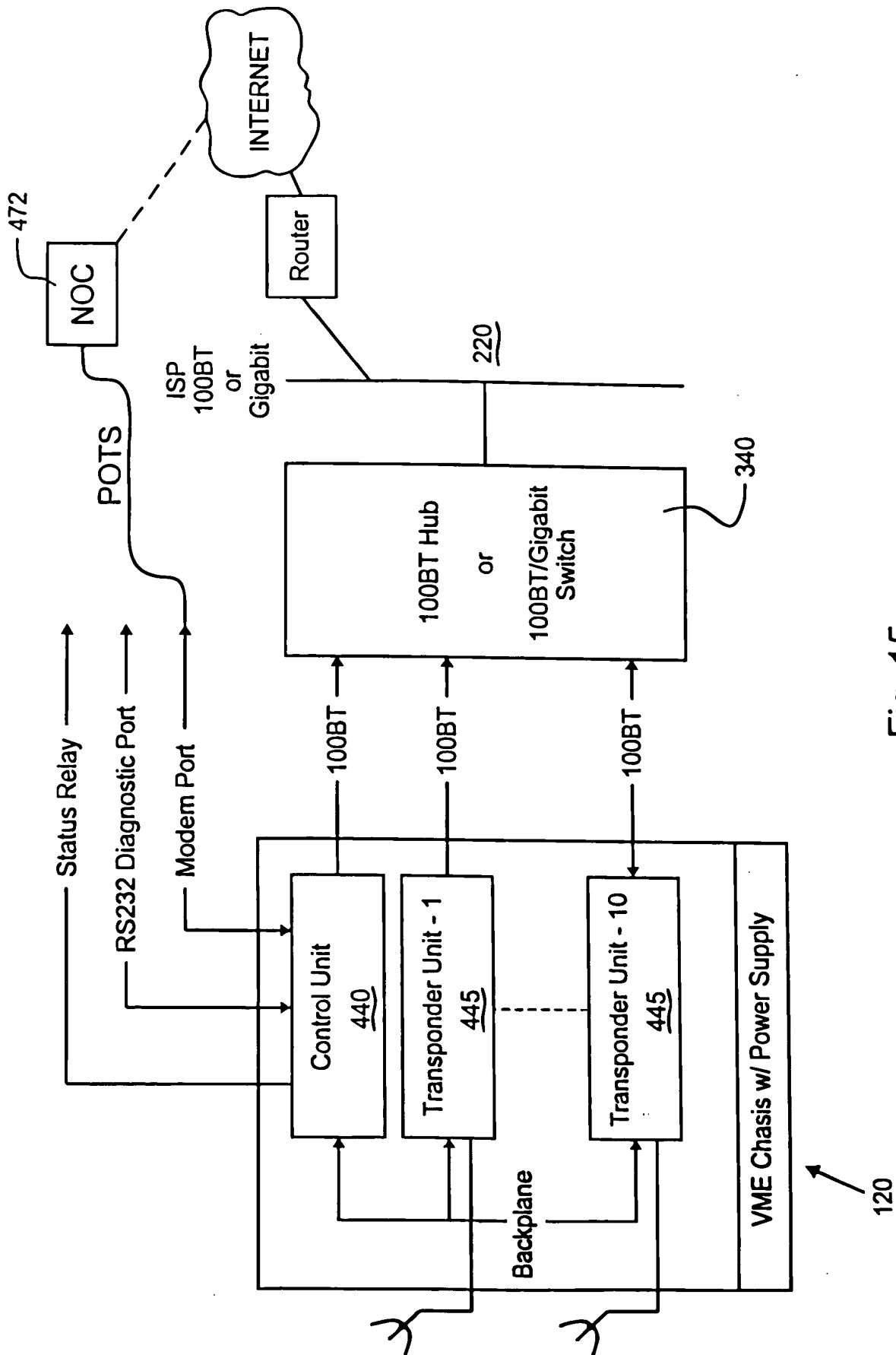


Fig. 15

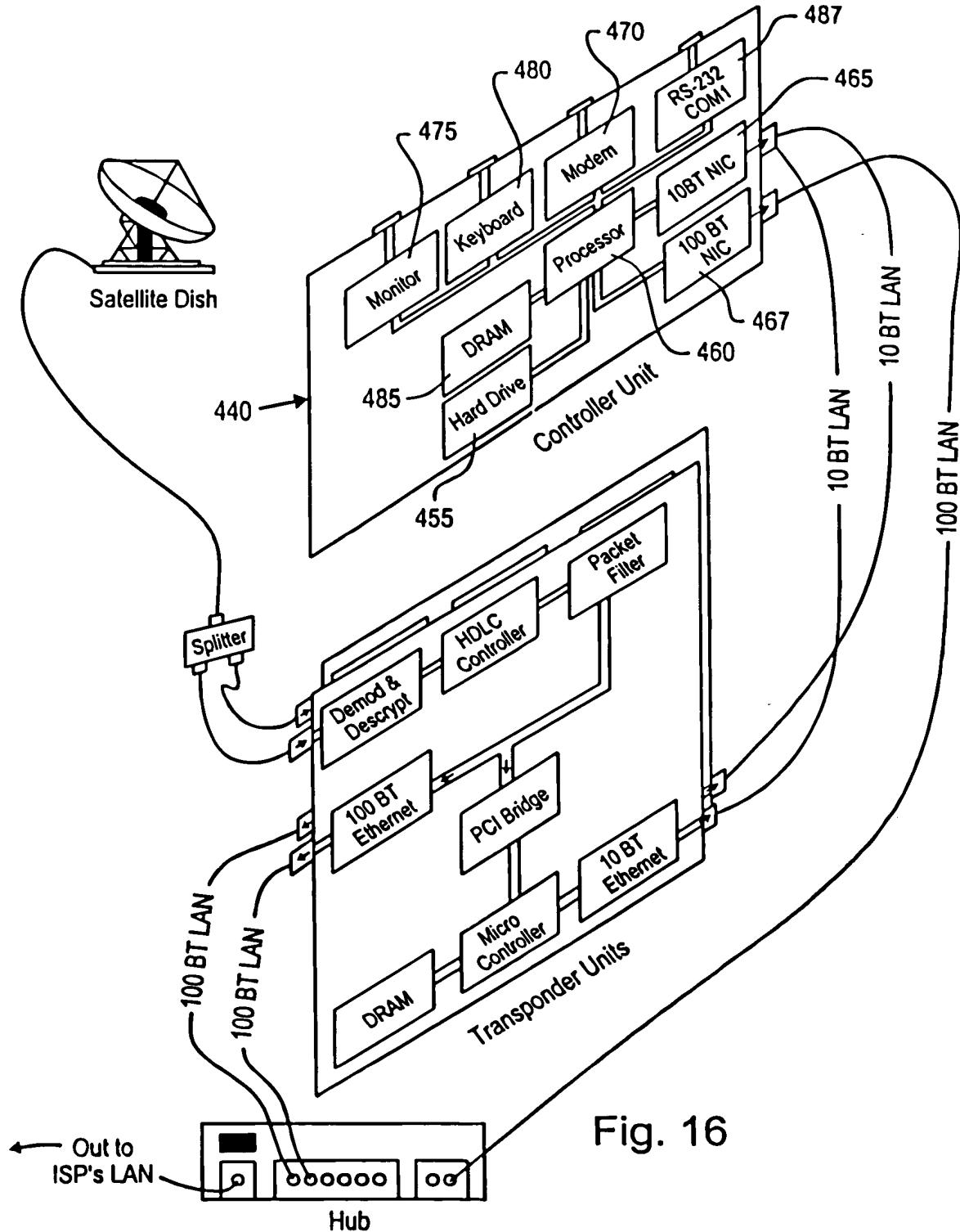


Fig. 16

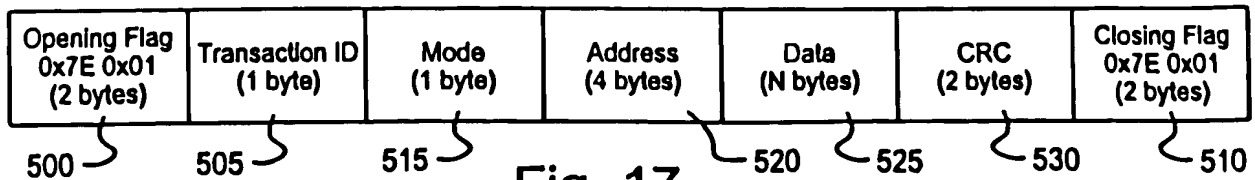


Fig. 17

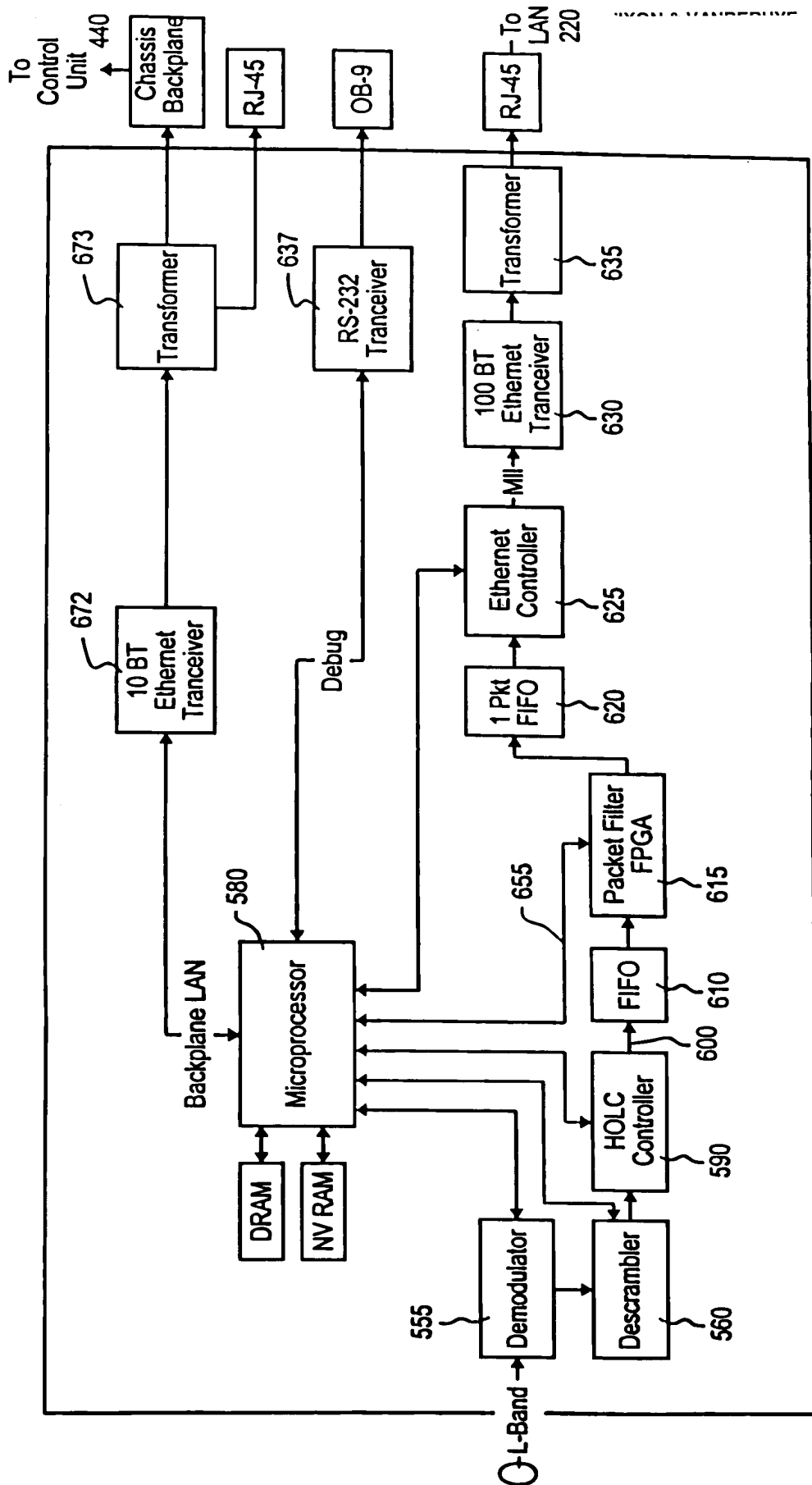


Fig. 18

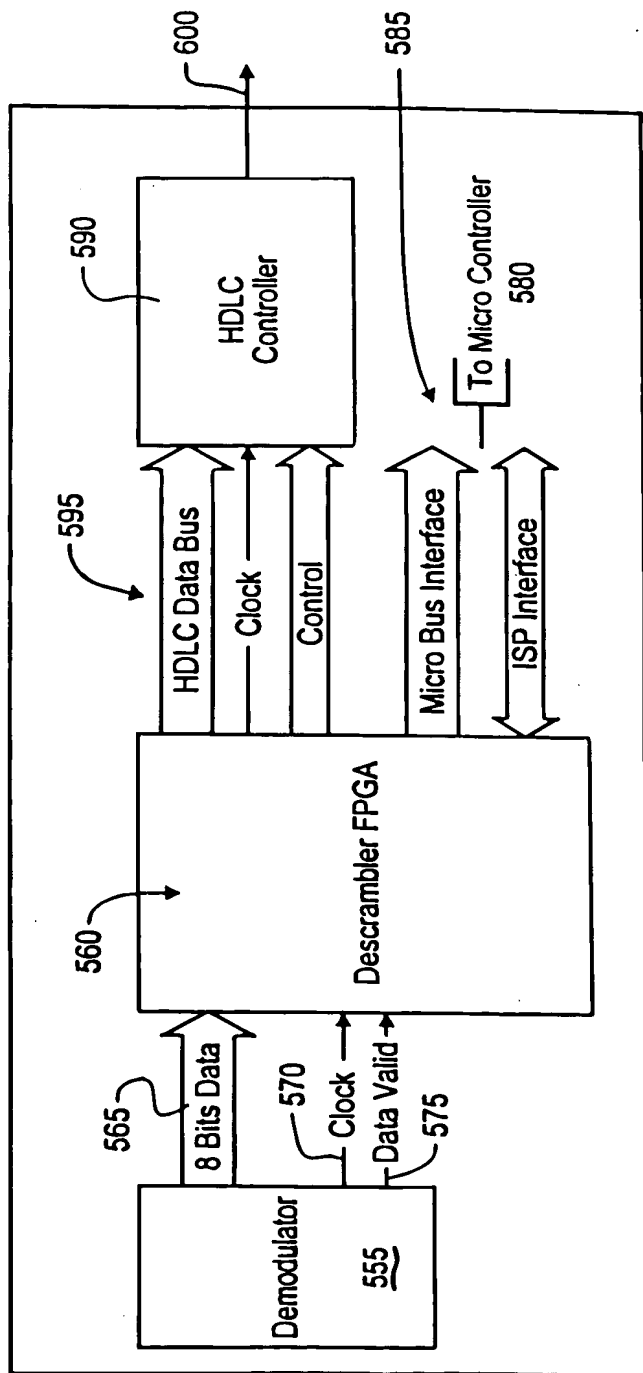


Fig. 19

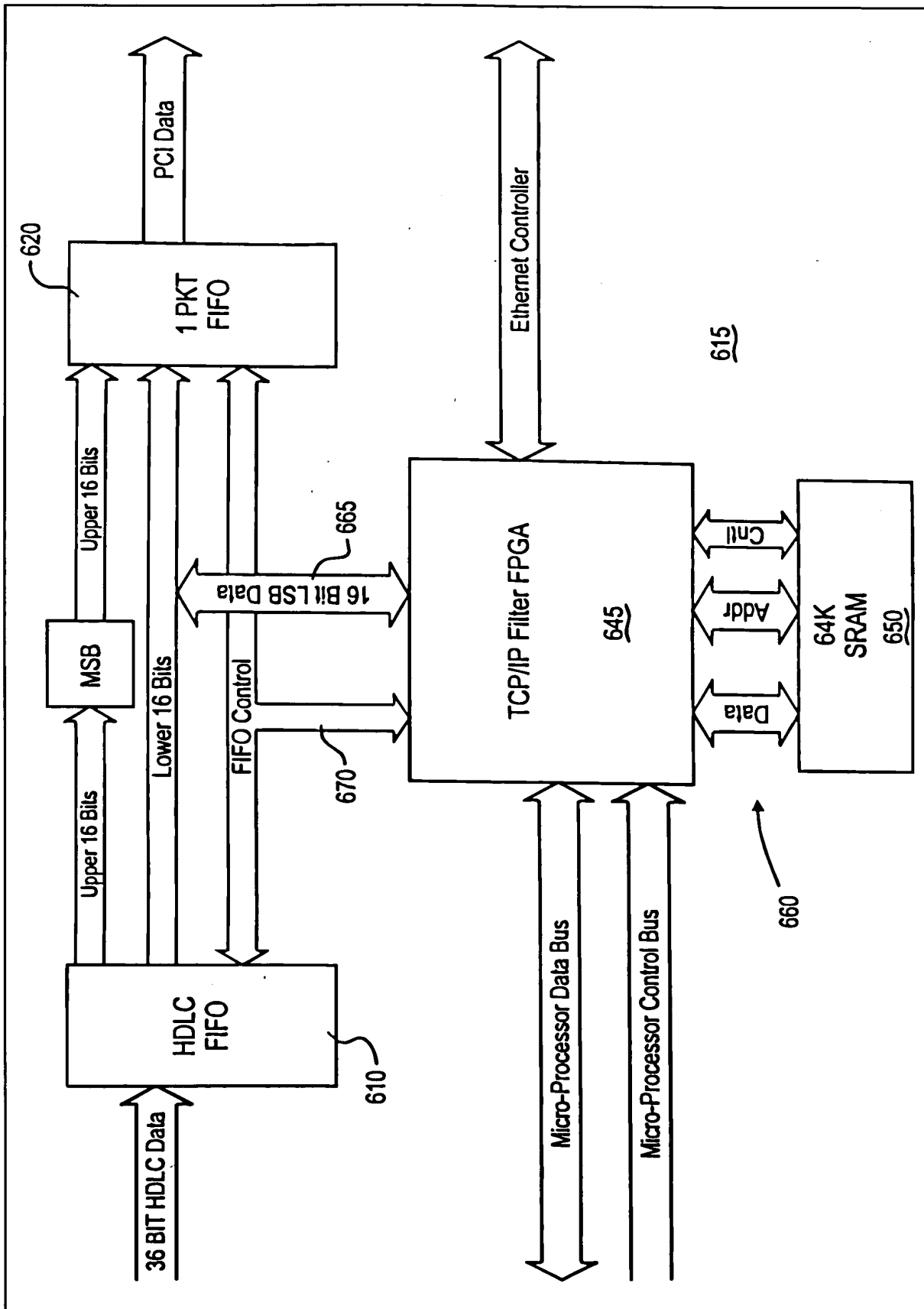


Fig. 20